



STIC Search Report **EIC 2800**

STIC Database Tracking Number: 97061

**TO: Lynn Field
Location: 10D15
Art Unit : 2839
Tuesday, June 24, 2003**

Case Serial Number: 09/813880

**From: Derrick Blalock
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Search Notes

Examiner Field,

Attached are edited first pass search results from the patent and nonpatent databases.

Colored tags indicate abstracts especially worth your review.

If you need further searching or have questions or comments, please let me know.

Thanks,
Derrick Blalock



FILE 'HCAPLUS'

L1 1 S US20020041145/PN

FILE 'REGISTRY'

L2 1 S 345961-25-3/RN

L3 1 S 365493-67-0/RN

L4 1 S 365493-68-1/RN

L5 1 S 365493-69-2/RN

L6 4 S (365493-70-5 OR 365493-71-6 OR 365493-72-7 OR 365493-76-1)/RN

FILE 'DPCI'

L7 0 S (DE10114212 OR JP2001335777 OR US2002041145 OR
CN1319640)/PN.

FILE 'REGISTRY'

L8 4 S (Y AND AL AND B AND O AND TB)/ELS AND 5/ELC.SUB

L9 7 S (GD AND AL AND B AND O AND TB)/ELS AND 5/ELC.SUB

L10 7 S (GD AND AL AND B AND O AND TB)/ELS AND 5/ELC.SUB

L11 0 S (GD AND AL AND B AND O AND TB AND CE)/ELS AND
6/ELC.SUB

L12 0 S (Y AND AL AND B AND O AND TB AND CE)/ELS AND 6/ELC.SUB

L13 0 S AL.B.CE.GD.O.TB/MF

L14 0 S O.AL.B.CE.GD.TB/MF

L15 0 S AL.B.CE.O.TB.Y/MF

FILE 'HCAPLUS'

L16 2 S L2-L6

L17 3 S L8

L18 4 S L9

L19 4 S L10

L20 5 S L16-L19

L21 4 S ALUMINUM GADOLINIUM TERBIUM BORATE

L22 3 S ALUMINUM TERBIUM YTTRIUM BORATE

L23 1 S ALUMINUM GADOLINIUM TERBIUM YTTRIUM BORATE

L24 4 S ALUMINUM GADOLINIUM TERBIUM BORATE

L25 6 S L21-L24

L26 4 S L25 NOT (L2-L6)

FILE 'HCAPLUS'

SEL RN L1

FILE 'REGISTRY'

L27 11 S E1-E11

FILE 'HCAPLUS'

L28 2 S L27

FILE 'REGISTRY'

L29 TRA L27 1- RN : 11 TERMS

FILE 'HCAPLUS' ENTERED AT 14:12:51 ON 24 JUN 2003

L30 2 SEA L29

FILE 'REGISTRY'

L31 0 S (GD AND TB AND CE AND AL AND B AND O)/ELS AND
6/ELC.SUB

L32 0 S (Y AND TB AND CE AND AL AND B AND O)/ELS AND 6/ELC.SUB

L33 0 S AL.B.CE.GD.O.TB/MF

L34 5 S (TB AND CE AND AL AND B AND O)/ELS AND 5/ELC.SUB

FILE 'REGISTRY'

L35 27 S (Y AND AL AND B AND O AND TB)/ELS

L36 27 S (Y AND AL AND B AND O AND TB)/ELS,MAC

L37 42 S (GD AND AL AND B AND O AND TB)/ELS

L38 21 S (GD AND AL AND B AND O AND TB AND CE)/ELS

L39 9 S (Y AND AL AND B AND O AND TB AND CE)/ELS

FILE 'HCAPLUS'

L40 7 S L35

L41 16 S L36-L39

L42 10 S (L40 OR L41) NOT (L2-L6 OR L25)

L20 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2003 ACS
 AN 2001:747078 HCAPLUS
 DN 135:310638
 TI Vacuum ultraviolet-stimulated phosphors and light-emitting devices using them
 IN Yokosawa, Nobuyuki; Yoshimura, Futoshi
 PA Kabushiki Kaisha Toshiba, Japan
 SO Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10114212	A1	20011011	DE 2001-10114212	20010323
	JP 2001335777	A2	20011204	JP 2001-54503	20010228
	US 2002041145	A1	20020411	US 2001-813880	20010322
	CN 1319640	A	20011031	CN 2001-112062	20010323
PRAI	JP 2000-82061	A	20000323		
AB	Vacuum UV-stimulated phosphors are described by the general formula $L1-xTbxAl3(BO3)4$ or $L1-x-yTbxCeyAl3(BO3)4$ ($L = Y$ and/or Gd ; $0.1 < x \leq 0.7$; and $0.00001 \leq y \leq 0.01$). Light-emitting devices (e.g., noble gas discharge lamps and plasma display panels) employing the phosphors are also described.				
IT	Electric discharge lamps Phosphors Plasma display panels (vacuum UV-stimulated borate phosphors and light-emitting devices using them)				
IT	365493-73-8P , Aluminum terbium yttrium borate ($Al3Tb0.2Y0.8(BO3)4$) 365493-74-9P 365493-75-0P RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (cerium-contg.; vacuum UV-stimulated borate phosphors and light-emitting devices using them)				
IT	345961-25-3P , Aluminum terbium yttrium borate ($Al3Tb0.3Y0.7(BO3)4$) 365493-67-0P , Aluminum gadolinium terbium borate ($Al3Gd0.7Tb0.3(BO3)4$) 365493-68-1P , Aluminum gadolinium terbium borate ($Al3Gd0.8Tb0.2(BO3)4$) 365493-69-2P 365493-70-5P 365493-71-6P 365493-72-7P 365493-76-1P RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (vacuum UV-stimulated borate phosphors and light-emitting devices using them)				

L20 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2003 ACS
 AN 2001:463342 HCAPLUS
 DN 135:68322
 TI Displays and light-emitting devices
 IN Suzuki, Teruki; Oshiki, Masatoshi; Okazaki, Choichiro
 PA Hitachi Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001172626	A2	20010626	JP 1999-362219	19991221
PRAI	JP 1999-362219		19991221		

AB The devices comprise a green-emitting phosphor comprising rare earths and aluminoborate, $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Tb}$ ($\text{Ln} = \text{La}, \text{Y}, \text{Gd}, \text{Lu}, \text{Sc}$).

IT Fluorescent substances

Phosphors

Plasma

Vacuum UV spectra

(plasma displays and light-emitting devices)

IT Aluminates

Borates

Rare earth metals, uses

RL: DEV (Device component use); USES (Uses)

(plasma displays and light-emitting devices)

IT 7440-63-3, Xenon, uses **320608-87-5**, Aluminum terbium yttrium borate ($\text{Al}_3\text{Tb}_0.15\text{Y}_0.85(\text{BO}_3)_4$) 345961-18-4 345961-19-5 345961-20-8, Aluminum lutetium terbium yttrium borate ($\text{Al}_3\text{Lu}_0.1\text{Tb}_0.3\text{Y}_0.6(\text{BO}_3)_4$) 345961-21-9 345961-22-0, Aluminum scandium terbium yttrium borate ($\text{Al}_3\text{Sc}_0.1\text{Tb}_0.3\text{Y}_0.6(\text{BO}_3)_4$) 345961-23-1 **345961-24-2**, Aluminum terbium yttrium borate ($\text{Al}_3\text{Tb}_0.65\text{Y}_0.35(\text{BO}_3)_4$) **345961-25-3**, Aluminum terbium yttrium borate ($\text{Al}_3\text{Tb}_0.3\text{Y}_0.7(\text{BO}_3)_4$)

RL: DEV (Device component use); USES (Uses)

(plasma displays and light-emitting devices)

L20 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:319539 HCAPLUS

DN 134:333975

TI Phosphor for vacuum ultraviolet excitation material

IN Ueda, Kyota; Endo, Tadashi; Ono, Keiji; Miyazaki, Susumu

PA Sumitomo Chemical Company, Limited, Japan

SO Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1095997	A2	20010502	EP 2000-122388	20001025
	EP 1095997	A3	20021120		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001123166	A2	20010508	JP 1999-305353	19991027
	JP 2001123164	A2	20010508	JP 1999-305354	19991027
	JP 2001123167	A2	20010508	JP 1999-305355	19991027
	JP 2001123165	A2	20010508	JP 1999-305356	19991027
	JP 2001123163	A2	20010508	JP 1999-305357	19991027
PRAI	JP 1999-305353	A	19991027		
	JP 1999-305354	A	19991027		
	JP 1999-305355	A	19991027		
	JP 1999-305356	A	19991027		
	JP 1999-305357	A	19991027		

AB Vacuum UV-stimulable phosphors are described which comprise materials obtained by doping compds. comprising Gd, Al, O and optionally B with Eu or Tb and materials obtained by doping compds. comprising Gd, M, B, and O ($M = \text{La}, \text{Ce}, \text{Pr}, \text{Nd}, \text{Sm}, \text{Eu}, \text{Gd}, \text{Lu}, \text{Y}, \text{Sc}, \text{Ba}, \text{Sr}, \text{Ca}$) with Eu. Preferably, the phosphors have compns. described by the general formulas $\text{Gd}_1\text{-aEu}_a\text{AlO}_3$, $\text{Gd}_1\text{-aTb}_a\text{AlO}_3$, $\text{Gd}_1\text{-aEu}_a\text{Al}_3(\text{BO}_3)_4$, $\text{Gd}_1\text{-aTb}_a\text{Al}_3(\text{BO}_3)_4$, or $\text{M}_4\text{Gd}_1\text{-aEu}_a(\text{BO}_3)_3$ ($0.003 \leq a \leq 0.5$). The Gd may be partially replaced by Y.

IT Phosphors

(vacuum UV-stimulable phosphors)

IT **260809-43-6P**, Aluminum gadolinium terbium borate

($\text{Al}_3\text{Gd}_0.95\text{Tb}_0.05(\text{BO}_3)_4$) 300810-54-2P, Aluminum europium gadolinium

borate ($\text{Al}_3\text{Eu}_0.05\text{Gd}_0.95(\text{BO}_3)_4$) 336800-84-1P, Aluminum gadolinium terbium

L20 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:180771 HCAPLUS
 DN 132:214243
 TI Photoluminance properties of Al₃Gd₄BO₁₂ phosphors activated by Tb³⁺ and Eu³⁺
 AU Kim, Ki-Woon; Kang, Sei-Sun; Lee, Rhim-Youl
 CS Department of Materials Science & Engineering, Dankook University, Cheonan, 330-714, S. Korea
 SO Han'guk Chaelyo Hakhoechi (2000), 10(1), 49-54
 CODEN: HCHAEU; ISSN: 1225-0562
 PB Materials Research Society of Korea
 DT Journal
 LA Korean
 AB The new green Al₃Gd₄BO₁₂:Tb³⁺ and red Al₃Gd₄BO₁₂:Eu³⁺ phosphors were synthesized and then characterized their optical properties for PDP application. The luminescence properties of these phosphors were compared with the com. green Zn₂SiO₄:Mn²⁺ and (Y,Gd)BO₃:Eu³⁺ red PDP phosphors. The phosphors were synthesized by solid state reaction at 1150.degree. for 4 h. The emitting brightness of AlGdB4O12:Tb3+ (15 mol%) green phosphor under 147 nm excitation was higher than that of com. Zn₂SiO₄:Mn²⁺ green PDP phosphor. The color coordinate of this new green phosphor was inferior to the com. one. The emitting intensity of Al₃Gd₄BO₁₂:Eu³⁺ (15 mol%) red phosphor was smaller than the com. (Y,Gd)BO₃:Eu³⁺ red phosphor, but the CIE coordinate was slightly improved. The excitation spectrum showed that AlGdB4O12 phosphors had a strong excitation band at .lambda. = 160 nm assocd. with the host absorption. The luminance excitation intensity in VUV range for AlGdB4O12:Tb³⁺ green phosphor was higher than that of Zn₂SiO₄:Mn²⁺, but the intensity of Al₃Gd₄BO₁₂:Eu³⁺ red phosphor was smaller than (Y,Gd)BO₃:Eu³⁺.

IT Luminescence
 Phosphors
 X-ray diffraction
 (luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)

IT 13597-65-4, Zinc silicate (Zn₂SiO₄) 13813-76-8, Aluminum yttrium borate (Al₃YB₄O₁₂) 124676-67-1, Gadolinium yttrium borate (Gd₀-1Y₀-1B₀₃)
 RL: PRP (Properties)
 (luminescence of)

IT **260809-40-3P**, Aluminum gadolinium terbium borate (Al₃Gd_{0.85}Tb_{0.15}(BO₃)₄) 260809-41-4P, Aluminum europium gadolinium borate (Al₃Eu_{0.15}Gd_{0.85}(BO₃)₄) **260809-42-5P**, Aluminum gadolinium terbium borate (Al₃Gd_{0.99}Tb_{0.01}(BO₃)₄) **260809-43-6P**, Aluminum gadolinium terbium borate (Al₃Gd_{0.95}Tb_{0.05}(BO₃)₄) **260809-44-7P**, Aluminum gadolinium terbium borate (Al₃Gd_{0.9}Tb_{0.1}(BO₃)₄) **260809-45-8P**, Aluminum gadolinium terbium borate (Al₃Gd_{0.82}Tb_{0.18}(BO₃)₄)
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)

IT 7440-27-9, Terbium, properties 22541-20-4, Terbium(3+), properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (luminescence of aluminum yttrium borate phosphors activated by)

IT 7440-53-1, Europium, properties 22541-18-0, Europium(3+), properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (luminescence of gadolinium yttrium borate contg.)

IT 7439-96-5, Manganese, properties 16397-91-4, Manganese(2+), properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (luminescence of zinc silicate contg.)

L26 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:704768 HCAPLUS
 DN 134:122946
 TI VUV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$)
 AU Hongpeng, Y.; Hong, G.; Zeng, X.; Kim, C.-H.; Pyun, C.-H.; Yu, B.-Y.; Bae, H.-S.
 CS Changchun Institute of Applied Chemistry, Key Laboratory of Rare Earth Chemistry and Physics, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
 SO Journal of Physics and Chemistry of Solids (2000), 61(12), 1985-1988
 CODEN: JPCSAW; ISSN: 0022-3697
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 AB Vacuum UV excitation spectra of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln} = \text{Y}, \text{Gd}; \text{Re} = \text{Eu}, \text{Tb}$), along with x-ray photoelectron spectra, were measured. The spectra are tentatively interpreted in terms of the optical properties of the rare earth ions and the band structure. There is an energy transfer from the hosts to the rare earth ions. Also the top of the valence band in the Gd compd. is mainly formed by the 2p levels of O^{2-} and the 4f levels of Gd^{3+} , and in the Y compd. mainly by the 2p levels of O^{2-} .
 IT Luminescence
 (UV; vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT Energy transfer
 Valence band
 X-ray photoelectron spectra
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 7440-27-9, Terbium, properties 7440-53-1, Europium, properties 22541-18-0, Europium 3+, properties 22541-20-4, Terbium 3+, properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 13813-76-8, Aluminum yttrium borate ($\text{Al}_3\text{YB}_4\text{O}_{12}$) 13813-77-9, Aluminum gadolinium borate ($\text{Al}_3\text{GdB}_4\text{O}_{12}$) 260809-40-3, **Aluminum gadolinium terbium borate**
 ($\text{Al}_3\text{Gd}_{0.85}\text{Tb}_{0.15}(\text{BO}_3)_4$) 260809-41-4, Aluminum europium gadolinium borate
 ($\text{Al}_3\text{Eu}_{0.15}\text{Gd}_{0.85}(\text{BO}_3)_4$) 320608-54-6, Aluminum europium yttrium borate
 ($\text{Al}_3\text{Eu}_{0.15}\text{Y}_{0.85}(\text{BO}_3)_4$) 320608-87-5, **Aluminum terbium yttrium borate** ($\text{Al}_3\text{Tb}_{0.15}\text{Y}_{0.85}(\text{BO}_3)_4$)
 RL: PRP (Properties)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:180771 HCAPLUS
 DN 132:214243
 TI Photoluminance properties of $\text{Al}_3\text{GdB}_4\text{O}_{12}$ phosphors activated by Tb^{3+} and Eu^{3+}
 AU Kim, Ki-Woon; Kang, Sei-Sun; Lee, Rhim-Youl
 CS Department of Materials Science & Engineering, Dankook University, Cheonan, 330-714, S. Korea
 SO Han'guk Chaelyo Hakhoechi (2000), 10(1), 49-54
 CODEN: HCHAEU; ISSN: 1225-0562
 PB Materials Research Society of Korea
 DT Journal
 LA Korean

- AB The new green Al₃Gd₄B₄O₁₂:Tb³⁺ and red Al₃Gd₄B₄O₁₂:Eu³⁺ phosphors were synthesized and then characterized their optical properties for PDP application. The luminescence properties of these phosphors were compared with the com. green Zn₂SiO₄:Mn²⁺ and (Y,Gd)BO₃:Eu³⁺ red PDP phosphors. The phosphors were synthesized by solid state reaction at 1150.degree. for 4 h. The emitting brightness of AlGdB₄O₁₂:Tb³⁺ (15 mol%) green phosphor under 147 nm excitation was higher than that of com. Zn₂SiO₄:Mn²⁺ green PDP phosphor. The color coordinate of this new green phosphor was inferior to the com. one. The emitting intensity of Al₃Gd₄B₄O₁₂:Eu³⁺ (15 mol%) red phosphor was smaller than the com. (Y,Gd)BO₃:Eu³⁺ red phosphor, but the CIE coordinate was slightly improved. The excitation spectrum showed that AlGdB₄O₁₂ phosphors had a strong excitation band at .lambda. = 160 nm assocd. with the host absorption. The luminance excitation intensity in VUV range for AlGdB₄O₁₂:Tb³⁺ green phosphor was higher than that of Zn₂SiO₄:Mn²⁺, but the intensity of Al₃GdB₄O₁₂:Eu³⁺ red phosphor was smaller than (Y,Gd)BO₃:Eu³⁺.
- IT Luminescence
Phosphors
X-ray diffraction
(luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)
- IT 13597-65-4, Zinc silicate (Zn₂SiO₄) 13813-76-8, Aluminum yttrium borate (Al₃YB₄O₁₂) 124676-67-1, Gadolinium yttrium borate (GdO-1Y₂O-1BO₃)
RL: PRP (Properties)
(luminescence of)
- IT 260809-40-3P, **Aluminum gadolinium terbium borate** (Al₃Gd_{0.85}Tb_{0.15}(BO₃)₄) 260809-41-4P, Aluminum europium gadolinium borate (Al₃Eu_{0.15}Gd_{0.85}(BO₃)₄) 260809-42-5P, **Aluminum gadolinium terbium borate** (Al₃Gd_{0.99}Tb_{0.01}(BO₃)₄) 260809-43-6P, **Aluminum gadolinium terbium borate** (Al₃Gd_{0.95}Tb_{0.05}(BO₃)₄) 260809-44-7P, **Aluminum gadolinium terbium borate** (Al₃Gd_{0.9}Tb_{0.1}(BO₃)₄) 260809-45-8P, **Aluminum gadolinium terbium borate** (Al₃Gd_{0.82}Tb_{0.18}(BO₃)₄)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)
- IT 7440-27-9, Terbium, properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of aluminum yttrium borate phosphors activated by)
- IT 7440-53-1, Europium, properties 22541-18-0, Europium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of gadolinium yttrium borate contg.)
- IT 7439-96-5, Manganese, properties 16397-91-4, Manganese(2+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of zinc silicate contg.)

L42 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:471801 HCAPLUS
 DN 133:112216
 TI Luminescent meta-borate substances
 IN Tews, Walter; Roth, Gundula; Fethke, Ina
 PA Tews; Walter, Germany; Roth; Gundula
 SO U.S., 9 pp., Cont.-in-part of U.S. Ser. No. 113,220, abandoned.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6085971	A	20000711	US 1999-392279	19990909
	DE 19730005	A1	19990114	DE 1997-19730005	19970712
	DE 19730005	C2	19991125		
PRAI	DE 1997-19730005	A	19970712		
	US 1998-113220	B2	19980710		

AB Luminescent metaborate substances are described by the general formula
 $(Y, La)_{1-x-y-z} Ce_x Gd_y Tb_z (Mg, Zn, Cd)_{1-p} Mn_p B_5 - q - s (Al, Ga)_q (X)_s O_{10}$ ($X = .gtoreq. 1$
 of Si, Ge, P, Zr, V, Nb, Ta, and W; if $y = z = p = 0$, then $0.01 .ltoreq. x$
 $.ltoreq. 1.0$, $0 .ltoreq. q .ltoreq. 1.0$, $0 < s .ltoreq. 1.0$; if $z = p = 0$
 and $y .noteq. 0$, then $0.01 .ltoreq. x .ltoreq. 1-y$, $0.02 .ltoreq. y$
 $.ltoreq. 0.80$, $0 .ltoreq. q .ltoreq. 1.0$, $0 < s .ltoreq. 1.0$; if $p = 0$ and
 $z .noteq. 0$, then $0.01 .ltoreq. x .ltoreq. 1-y-z$, $0 .ltoreq. y .ltoreq.$
 0.98 , $y + z .ltoreq. 0.99$, $0.01 .ltoreq. z .ltoreq. 0.75$, $0 .ltoreq. q$
 $.ltoreq. 1.0$, $0 < s .ltoreq. 1.0$; if $z = 0$ and $p .noteq. 0$, then 0.01
 $.ltoreq. x .ltoreq. 1 - y$, $0 .ltoreq. y .ltoreq. 0.99$, $0.01 .ltoreq. p$
 $.ltoreq. 0.30$, $0 .ltoreq. q .ltoreq. 1.0$, and $0 < s .ltoreq. 1.0$; or if p
 $.noteq. 0$ and $z .noteq. 0$, then $0.01 .ltoreq. x < 1-y-z$, $0 .ltoreq. y$
 $.ltoreq. 0.98$, $0.01 .ltoreq. z .ltoreq. 0.75$, $x + z .ltoreq. 0.99$, 0.01
 $.ltoreq. p .ltoreq. 0.30$, $0 .ltoreq. q .ltoreq. 1.0$, and $0 < s .ltoreq.$
 1.0). Luminescent screens and low pressure discharge lamps employing the
 substances are also described. The activated luminescent metaborates
 demonstrated good stability under the influence of short-wave UV
 radiation.

IT Electric discharge lamps
 Luminescent screens
 Luminescent substances
 Phosphors
 (luminescent metaborates and screens and lamps using them)

IT Borates
 RL: DEV (Device component use); USES (Uses)
 (luminescent metaborates and screens and lamps using them)

IT **219874-50-7 219874-53-0 219874-54-1**
 219874-57-4 **219874-64-3** 219874-65-4 219874-66-5
 219874-67-6 **219875-58-8** 282529-62-8 282529-64-0
 282529-65-1

RL: DEV (Device component use); USES (Uses)
 (luminescent metaborates and screens and lamps using them)

IT **219874-49-4P 219874-52-9P** 219874-56-3P
219874-61-0P 282529-63-9P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (luminescent metaborates and screens and lamps using them)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:452811 HCAPLUS
 DN 133:50915
 TI Green emitting luminescent material
 IN Park, Chang-Won; Yang, Jun-Mo
 PA Samsung Display Devices Co., Ltd., S. Korea
 SO Repub. Korea, No pp. given
 CODEN: KRXXFC
 DT Patent
 LA Korean
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	KR 9511224	B1	19950929	KR 1992-10512	19920617
PRAI	KR 1992-10512		19920617		
AB	The fluorescent material comprises: a general expression of $(Y_1-xTbx)_3(A_15-y-zGayBz)O_{12}$, wherein $0.01 \leq x \leq 0.1$, $0 \leq y \leq 3$, and $0.01 \leq z \leq 1.0$.				
IT	Ceramics				
	Fluorescent substances				
	Luminescent substances				
	(green emitting luminescent material)				
IT	275360-19-5				
	RL: PRP (Properties)				
	(green emitting luminescent material)				

L42 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:381934 HCAPLUS
 DN 132:354579
 TI Luminescent materials
 IN Tues, W.; Rose, G.; Fesek, I.
 PA Germany
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 15 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1206734	A	19990203	CN 1998-115943	19980710
	CN 1105765	B	20030416		
PRAI	CN 1998-115943		19980710		

AB Luminescent materials are described by the general formula
 $(Y, La)_{1-x-y-z} Ce_x Gd_y Tb_z (Mg, Zn, Cd)_{1-p} MnB_5-q-s (Al, Ga)_q (X) s O_{10}$ (X = Si, Ge, P, Zr, V, Nb, Ta, and/or W; if $y = z = p = 0$, $0.01 \leq x \leq 1.0$, $0 \leq q \leq 1.0$, and $0 \leq s \leq 1.0$; if $z = p = 0$ and $y \neq 0$, $0.01 \leq x \leq 1-y$, $0.02 \leq y \leq 0.8$, $0 \leq q \leq 1.0$, and $0 \leq s \leq 1.0$; if $p = 0$ and $z \neq 0$, $0.01 \leq x \leq 1-y-z$, $0 \leq y \leq 0.98$, $y + z \leq 0.99$, $0.01 \leq z \leq 0.75$, $0 \leq q \leq 1.0$, and $0 < s \leq 1.0$; if $z = 0$ and $p \neq 0$, $0.01 \leq x \leq 1-y$, $0 \leq q \leq 1.0$, $0.99 \leq p \leq 1.0$, and $0.3 \leq s \leq 1.0$; or if p and $z \neq 0$, $0.01 \leq x \leq 1-y-z$, $0 \leq y \leq 0.98$, $0.01 \leq z \leq 0.75$, $x+z \leq 0.99$, $0.01 \leq p \leq 0.3$, $0 \leq q \leq 1.0$, and $0 < s \leq 1.0$).
 Gd_{0.6}Ce_{0.2}Tb_{0.2}MgAl_{0.1}Si_{0.05}B_{4.85}O₁₀, Gd_{0.6}Ce_{0.2}Tb_{0.2}MgAl_{0.1}Si_{0.05}B_{4.80}O₁₀, Gd_{0.8}Ce_{0.2}Mg_{0.9}Mn_{0.1}Al_{0.1}Si_{0.05}B_{4.85}O₁₀, Gd_{0.8}Ce_{0.2}Mg_{0.9}Mn_{0.1}Si_{0.1}B_{4.90}O₁₀, Gd_{0.6}Ce_{0.2}Tb_{0.2}Mg_{0.9}Mn_{0.1}Al_{0.1}Si_{0.05}B_{4.85}O₁₀, etc. were manufd. The materials may be employed for fluorescent layers on fluorescent screens or luminescent layers in low-voltage mercury arc lamps.

IT Luminescent substances
 Phosphors

(luminescent materials based on borates)

IT Borates

RL: DEV (Device component use); PRP (Properties); USES (Uses)

(luminescent materials based on borates)

IT **219874-48-3 219874-50-7 219874-53-0**

219874-54-1 219874-55-2 219874-57-4 219874-60-9

219874-63-2 219874-64-3 219874-65-4 219874-66-5

219874-67-6 219875-58-8

RL: DEV (Device component use); PRP (Properties); USES (Uses)

(luminescent materials based on borates)

IT **219874-49-4P 219874-52-9P 219874-56-3P**

219874-61-0P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(luminescent materials based on borates)

L42 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:232570 HCAPLUS

DN 132:272951

TI Perovskite-structured dielectric ceramic compositions and multilayered ceramic capacitors

IN Nakamura, Tomoyuki; Mizuno, Tsugunobu; Sano, Harunobu

PA Murata Mfg. Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000103668	A2	20000411	JP 1998-273049	19980928
	US 6346497	B1	20020212	US 1999-388173	19990901
	EP 992469	A2	20000412	EP 1999-118316	19990915
	EP 992469	A3	20000906		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	SG 87050	A1	20020319	SG 1999-4539	19990915
	TW 424243	B	20010301	TW 1999-88116394	19990923
	CN 1249286	A	20000405	CN 1999-120872	19990928
PRAI	JP 1998-273049	A	19980928		
AB	The compn. comprises a main component having compositional formula $ABO_3 + aR + bM$ (ABO_3 indicates perovskite-structured Ba titanate-type solid soln; $R = La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb$, and/or Lu ; $M = Mn, Ni, Mg, Fe, Al, Cr$, and/or Zn ; $A/B = 0.950-1.050$; $0.12 < a \leq 0.30$; $b = 0.04-0.30$) and a sintering aid as a subcomponent. Optionally, the main component may also contain $X(Zr, Hf)O_3$ ($X = Ba, Sr$, and/or Ca) and D ($D =$ oxide of V, Nb, Ta, Mo, W, Y , and/or Sc). ABO_3 may have compn. formula $[(Ba_{1-x-y}Sr_xCa_y)O]_mTiO_2$ ($x + y = 0-0.20$; $m = 0.950-1.050$). Multilayered ceramic capacitors comprising the dielec. compns. are also claimed. The compns. have high insulation resistance under high elec. field and have low loss under high frequency and high a.c. voltage.				
IT	Electric insulators (ceramic; barium titanate-based perovskite-structured dielec. ceramic compns. and multilayered ceramic capacitors)				
IT	Ceramic capacitors (multilayer; barium titanate-based perovskite-structured dielec. ceramic compns. and multilayered ceramic capacitors)				
IT	1306-38-3, Ceria, properties 1308-38-9, Chromia, properties 1308-87-8, Dysprosium oxide (Dy_2O_3) 1308-96-9, Europium oxide (Eu_2O_3) 1309-37-1, Iron oxide (Fe_2O_3), properties 1309-48-4, Magnesia, properties 1312-81-8, Lanthana 1313-27-5, Molybdenum trioxide, properties 1313-96-8, Niobium oxide (Nb_2O_5) 1313-97-9, Neodymium oxide (Nd_2O_3) 1313-99-1, Nickel monoxide, properties 1314-13-2, Zinc monoxide, properties 1314-35-8, Tungsten trioxide, properties 1314-36-9, Yttria, properties 1314-37-0, Ytterbia 1314-61-0, Tantalum oxide (Ta_2O_5) 1314-62-1, Vanadium oxide (V_2O_5), properties 1344-28-1, Alumina, properties 1344-43-0, Manganese monoxide, properties 12032-20-1, Lutetium oxide (Lu_2O_3) 12036-44-1, Thulium oxide (Tm_2O_3) 12037-01-3, Terbium oxide (Tb_4O_7) 12037-29-5, Praseodymium oxide (Pr_6O_{11}) 12055-62-8, Holmium oxide (Ho_2O_3) 12060-08-1, Scandia 12060-58-1, Samarium oxide (Sm_2O_3) 12061-16-4, Erbium oxide (Er_2O_3) 12064-62-9, Gadolinium oxide (Gd_2O_3) RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (barium titanate-based perovskite-structured dielec. ceramic compns.)				

and multilayered ceramic capacitors)

IT 107958-19-0P, Barium calcium titanium oxide (Ba_{0.95}Ca_{0.05}TiO₃)
 110832-68-3P, Barium titanium oxide (Ba_{1.02}TiO_{3.02}) 110832-69-4P, Barium
 titanium oxide (Ba_{1.01}TiO_{3.01}) 132266-81-0P, Barium calcium strontium
 titanium oxide (Ba_{0.97}Ca_{0.01}Sr_{0.02}TiO₃) 132266-82-1P, Barium strontium
 titanium oxide (Ba_{0.99}Sr_{0.02}TiO_{3.01}) 137486-74-9P, Barium titanium oxide
 (Ba_{1.04}TiO_{3.04}) 147130-99-2P, Barium calcium titanium oxide
 (Ba_{0.96}Ca_{0.04}TiO₃) 163928-00-5P, Barium strontium titanium oxide
 (Ba_{0.88}Sr_{0.12}TiO₃) 192724-44-0P, Barium calcium titanium oxide
 (Ba_{0.98}Ca_{0.03}TiO_{3.01}) 255829-18-6P, Barium strontium titanium oxide
 (Ba_{0.95}Sr_{0.06}TiO_{3.01}) 263165-85-1P, Barium hafnium zirconium oxide
 263165-86-2P 263165-87-3P 263165-89-5P, Barium calcium strontium
 titanium oxide (Ba_{0.77}Ca_{0.12}Sr_{0.12}TiO_{3.01}) 263165-91-9P, Barium
 strontium titanium oxide (Ba_{0.98}Sr_{0.03}TiO_{3.01}) 263165-94-2P, Barium
 calcium titanium oxide (Ba_{1.01}Ca_{0.02}TiO_{3.03}) 263165-96-4P, Barium
 calcium strontium titanium oxide (Ba_{0.82}Ca_{0.1}Sr_{0.1}TiO_{3.02}) 263165-99-7P,
 Barium calcium strontium titanium oxide (Ba_{0.89}Ca_{0.04}Sr_{0.08}TiO_{3.01})
 263166-01-4P, Barium calcium strontium titanium oxide
 (Ba_{0.86}Ca_{0.07}Sr_{0.07}TiO₃) 263166-03-6P, Barium calcium titanium oxide
 (Ba_{1.02}Ca_{0.03}TiO_{3.05}) 263166-07-0P, Barium calcium strontium titanium
 oxide (Ba_{0.99}Ca_{0.01}Sr_{0.01}TiO_{3.01}) 263166-09-2P, Barium calcium strontium
 titanium oxide (Ba_{0.82}Ca_{0.06}Sr_{0.1}TiO_{2.98}) 263166-12-7P, Barium calcium
 strontium titanium oxide (Ba_{0.9}Ca_{0.06}Sr_{0.05}TiO_{3.01}) 263166-14-9P, Barium
 strontium titanium oxide (Ba_{0.97}Sr_{0.05}TiO_{3.02}) 263166-17-2P, Barium
 strontium titanium oxide (Ba_{0.96}Sr_{0.01}TiO_{2.97}) 263166-18-3P, Barium
 calcium strontium titanium oxide (Ba_{0.86}Ca_{0.07}Sr_{0.08}TiO_{3.01})
 263166-19-4P, Barium calcium strontium titanium oxide
 (Ba_{0.83}Ca_{0.05}Sr_{0.1}TiO_{2.98}) 263166-20-7P, Barium titanium oxide
 (Ba_{1.35}TiO_{3.35}) 263166-23-0P, Barium calcium strontium titanium oxide
 (Ba_{0.87}Ca_{0.07}Sr_{0.08}TiO_{3.02}) 263166-25-2P, Barium titanium oxide
 (Ba_{1.05}TiO_{3.05}) 263166-26-3P, Barium calcium strontium titanium oxide
 (Ba_{0.96}Ca_{0.01}Sr_{0.04}TiO_{3.01}) 263166-27-4P, Barium strontium titanium
 oxide (Ba_{0.93}Sr_{0.04}TiO_{2.97}) 263166-28-5P, Barium calcium strontium
 titanium oxide (Ba_{0.9}Ca_{0.08}Sr_{0.04}TiO_{3.02}) 263166-29-6P, Barium calcium
 strontium titanium oxide (Ba_{0.86}Ca_{0.06}Sr_{0.08}TiO₃) 263166-30-9P, Barium
 titanium oxide (Ba_{0.95}TiO_{2.95}) 263166-31-0P, Barium calcium titanium
 oxide (BaCa_{0.03}TiO_{3.03}) 263166-32-1P 263166-33-2P 263166-34-3P
 263166-35-4P 263166-36-5P 263166-37-6P 263166-38-7P 263166-39-8P
 263166-40-1P 263166-41-2P 263166-42-3P 263166-43-4P 263166-44-5P
 263166-45-6P 263166-46-7P 263166-47-8P 263166-48-9P 263166-49-0P
 263166-50-3P 263166-51-4P 263166-52-5P 263166-53-6P 263166-54-7P
 263166-55-8P 263166-56-9P 263166-57-0P 263166-58-1P 263166-59-2P
 263166-60-5P 263166-61-6P 263166-62-7P 263166-63-8P 263166-64-9P
 263166-65-0P 263166-66-1P 263166-67-2P 263166-68-3P 263166-69-4P
 263166-70-7P 263166-71-8P 263166-72-9P 263166-73-0P 263166-74-1P
 263166-75-2P 263166-76-3P 263166-77-4P 263166-78-5P 263166-79-6P
 263166-80-9P 263166-81-0P 263166-82-1P 263166-83-2P 263166-84-3P
 263166-85-4P 263166-86-5P **263166-87-6P** 263166-88-7P
 263166-89-8P 263166-90-1P 263166-91-2P 263166-92-3P 263166-93-4P
 263166-94-5P 263166-95-6P 263166-96-7P 263166-97-8P 263166-98-9P
 263166-99-0P 263167-00-6P 263167-01-7P 263167-02-8P 263167-03-9P
 263167-04-0P 263167-05-1P 263167-06-2P 263167-07-3P 263167-08-4P
 263167-09-5P
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (barium titanate-based perovskite-structured dielec. ceramic compns.
 and multilayered ceramic capacitors)

IT 1303-86-2, Boria, properties 1304-28-5, Barium monoxide, properties
 7631-86-9, Silica, properties 12057-24-8, Lithium oxide (Li₂O),
 properties 13463-67-7, Titania, properties 156513-90-5, Aluminum

lithium silicon titanium oxide 159577-65-8, Silicon titanium oxide
($\text{Si}_{0.7}\text{Ti}_{0.3}\text{O}_2$) 263165-83-9, Aluminum barium boron manganese oxide
263165-84-0, Boron lithium silicon titanium oxide
RL: DEV (Device component use); MOA (Modifier or additive use); PEP
(Physical, engineering or chemical process); PRP (Properties); PROC
(Process); USES (Uses)
(sintering aid; barium titanate-based perovskite-structured dielec.
ceramic comps. and multilayered ceramic capacitors)

L42 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:216124 HCAPLUS

DN 126:231325

TI Electric lamp having phosphor blends containing a wide bandwidth emission red phosphor

IN Trushell, Charles; Magean, Liviu

PA Philips Electronics North America Corporation, USA

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5612590	A	19970318	US 1995-572219	19951213
PRAI	US 1995-572219		19951213		

AB Phosphor blends and low-pressure discharge lamps utilizing the blends are described in which the blends comprise a first luminescent material comprising a pentaborate comprising gadolinium and magnesium activated by trivalent cerium, trivalent terbium and bivalent manganese; a second luminescent material comprising manganese-activated zinc silicate; a third luminescent material comprising an antimony-activated alk. earth metal halophosphate; and an alk. earth metal halophosphate activated with manganese and antimony, the components of the blend being combined in proportions which are selected depending on the lamp color desired so that a full spectrum in visible and CRI values of at least 82 are provided. Preferably, the first phosphor is a red phosphor described by the formula $Gd_{1-x-y}Ce_xTb_yMg_{1-p}Mn_pB_5O_{10}$ (0.01 $\leq x \leq 0.1$, 0 $\leq y \leq 0.01$, 0.75 $\leq p \leq 0.99$), in which up to 20 mol % of the B may be replaced by Al and/or Ga.

IT Alkaline earth halides

Alkaline earth halides

Phosphates, uses

Phosphates, uses

RL: DEV (Device component use); USES (Uses)

(calcium halide phosphates; elec. lamps using phosphor blends contg. wide bandwidth emission red phosphors)

IT Electric discharge lamps

Phosphors

(elec. lamps using phosphor blends contg. wide bandwidth emission red phosphors)

IT Phosphates, uses

Phosphates, uses

RL: DEV (Device component use); USES (Uses)

(halide, alk. earth; elec. lamps using phosphor blends contg. wide bandwidth emission red phosphors)

IT Halides

Halides

RL: DEV (Device component use); USES (Uses)

(phosphates, alk. earth; elec. lamps using phosphor blends contg. wide bandwidth emission red phosphors)

IT Phosphors

(red-emitting; elec. lamps using phosphor blends contg. wide bandwidth emission red phosphors)

IT 11126-29-7, Zinc silicate **188264-61-1**

RL: DEV (Device component use); USES (Uses)

(elec. lamps using phosphor blends contg. wide bandwidth emission red phosphors)

IT 7439-96-5, Manganese, uses 7440-27-9, Terbium, uses 7440-36-0,

Antimony, uses 7440-45-1, Cerium, uses 16397-91-4, Manganese +2, uses

18923-26-7, Cerium +3, uses 22541-20-4, Terbium +3, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES
(Uses)

(elec. lamps using phosphor blends contg. wide bandwidth emission red
phosphors)

IT 188264-60-0, Boron gadolinium magnesium oxide

RL: DEV (Device component use); USES (Uses)

(manganese- and cerium- and terbium-activated; elec. lamps using
phosphor blends contg. wide bandwidth emission red phosphors)

IT 188264-59-7, Boron cerium gadolinium magnesium oxide

RL: DEV (Device component use); USES (Uses)

(manganese-activated; elec. lamps using phosphor blends contg. wide
bandwidth emission red phosphors)

L42 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2003 ACS
 AN 1993:157394 HCAPLUS
 DN 118:157394
 TI Method of preparing small particle size borate phosphor
 IN Deboer, Barry G.
 PA GTE Products Corp., USA
 SO U.S., 6 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 5132043	A	19920721	US 1991-812984	19911224
PRAI	US 1991-812984		19911224		

AB Methods for producing LM(BcAld)5O10 ($c + d = 1$; $L = .gtoreq.1$ of Y and lanthanide rare earths; $M = .gtoreq.1$ of Mg, Mn, Zn, and Cd; and $d = 0-0.25$) phosphors with small particle sizes entails producing a slurry of copptd. phosphor precursors, spray drying, prefiring at 400-600.degree. to form H2O-insol. precursors, forming an aq. suspension of the precursors, adding H3BO3 to the suspension to keep the suspended particles isolated from each other, drying comminuting the dried mixt., firing to produce the phosphor in a B oxide matrix, and dissolving the B oxide matrix with water leaving sep. small phosphor particles.

IT Phosphors

(borate, prepn. of, with small particle sizes)

IT **146540-99-0P** 146541-00-6P 146541-01-7P 146541-02-8P
 146541-03-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and use of, as phosphors)

L42 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:168774 HCAPLUS

DN 112:168774

TI Phosphor for fluorescent lamp

IN Terajima, Kenji; Tomura, Tomoharu; Yamakawa, Masahiko; Takehana, Yasuo

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01217096	A2	19890830	JP 1988-41860	19880226
PRAI	JP 1988-41860		19880226		

AB Claimed are a green-emitting phosphor represented by $(\text{Ce}_{a-1}\text{La}_b\text{Gd}_c\text{M}_{1-a-b-c}\text{Si}_y\text{O}_3)_m(\text{Mg}_{1-x-y}\text{B}_x\text{Si}_y)_2\text{O}_3$ (L = Y, La, Gd; M = Ca, Sr, Ba, Zn, Gd, Mn; $a > 0$, $b > 0$; $1 \geq a + b > 0$; $c = 0-0.5$; $m = 1.5-5.0$; $n = 2.5-16.0$; $x \geq 0$; $y = 0-0.3$; $0 \leq x + y < 1$) and contg. 0.01-100 ppm F, Cl, Br and/or I and a fluorescent lamp having a film thereof.

IT Phosphors
(green-emitting, rare earth borate silicate aluminate, for fluorescent lamps)

IT 126238-05-9 126238-06-0 **126282-38-0**

RL: PRP (Properties)

(phosphor, green-emitting, for fluorescent lamps)

L42 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2003 ACS

AN 1988:176860 HCAPLUS

DN 108:176860

TI Green-emitting phosphor for fluorescent lamp.

IN Kimura, Yoshio; Tomura, Tomoharu

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62277488	A2	19871202	JP 1986-120209	19860527
PRAI	JP 1986-120209		19860527		
AB	The phosphor is $v(R1-a-b \text{ CeTbb})2O3wDOxAl2O3ySiO2zB2O3$ ($R = Y, La, \text{ and/or } Gd; D = Mg, Ca, Sr, Ba, \text{ and/or } Zn; 0 < a + b \leq 1; w \neq 0; 0 \leq x; 0 \leq y; 0 \leq z; x + y > 0; y + z > 0; x + z > 0$). The phosphor prevents blackening of the end of a lamp tube. The green phosphor $0.5(Ce0.7Tb0.3)2O3 \cdot 1.3MgO \cdot 5.4Al_2O_3 \cdot 0.1SiO_2$ showed and kept high light transmittance in the fluorescent lamp.				
IT	Electroluminescent devices (lamps, green-emitting phosphors for, for blackening resistance)				
IT	Phosphors (green-emitting, cerium- and terbium-activated, for blackening-resistant fluorescent lamp)				
IT	113980-33-9	113980-34-0	113980-35-1	113980-36-2	
	113980-37-3	113980-38-4	113980-39-5	113980-40-8	
	113980-41-9	113980-42-0	113980-43-1	113980-44-2	
	113980-45-3	113980-46-4	113980-47-5	113980-48-6	114013-99-9
	114014-00-5				
RL:	PRP (Properties) (green-emitting phosphor, for blackening-resistant fluorescent lamp)				

L42 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2003 ACS

AN 1988:85039 HCAPLUS

DN 108:85039

TI Phosphors

IN Yamakawa, Masahiko; Terajima, Kenji

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62121784	A2	19870603	JP 1985-259700	19851121

PRAI JP 1985-259700 19851121

AB The phosphors comprise (L1-a-bCeaTbb)2A3(BxA11-x)6O15 (L = Y, La, and/or Gd; A = Mg, Ca, Sr, Ba, and/or Zn; 0.05 .ltoreq. a .ltoreq. 0.90; 0.01 .ltoreq. b .ltoreq. 0.70; a + b < 1.0; 0 .ltoreq. x < 1.0). The phosphors emit a persistent green luminescence, having a high intensity, under UV excitation.

IT Phosphors

(persistent, green-emitting)

IT 112417-33-1 112417-34-2 112417-35-3

112417-36-4 112436-21-2 112436-22-3

112436-23-4 112436-24-5 112436-25-6 112436-26-7

112436-27-8 112436-28-9 112436-29-0 112436-30-3

112436-31-4 112759-77-0 112957-91-2

RL: PRP (Properties)

(phosphors based on, green-emitting persistent)

FILE 'WPIX'

L43 2320 S A764/M1,M1,M2,M3,M4,M5,M6
L44 1571 S A765/M1,M1,M2,M3,M4,M5,M6
L45 1292 S A768/M1,M1,M2,M3,M4,M5,M6
L46 69826 S A313/M1,M1,M2,M3,M4,M5,M6
L47 29200 S (B105 OR B505 OR B405 OR B105 OR B505 OR B205 OR B605 OR
B305
L48 55154 S B702/M1,M1,M2,M3,M4,M5,M6
L49 4448 S A539/M1,M1,M2,M3,M4,M5,M6
L50 27 S L43 AND L44 AND L45 AND L46 AND L47 AND L48 AND L49
L51 10 S L50 NOT PY>2000
L52 29 S L43 AND L44 AND L45 AND L46 AND L47 AND L48
L53 11 S L52 NOT PY>2000
L54 28 S L44 AND L45 AND L46 AND L47 AND L48 AND L49
L55 1 S L54 NOT (L52 OR L50)

FILE 'WPIX'

L56 6941 S A758/M1,M1,M2,M3,M4,M5,M6
L57 35 S L43 AND L44 AND L56 AND L46 AND L47 AND L48
L58 6 S L57 NOT (L52 OR L50 OR L54)

FILE 'HCAPLUS'

L59 0 S B720/M1,M1,M2,M3,M4,M5,M6

FILE 'WPIX'

L60 207165 S B720/M1,M1,M2,M3,M4,M5,M6
L61 87 S L43 AND L44 AND L56 AND L46 AND L47 AND L60
L62 83 S L49 AND L44 AND L56 AND L46 AND L47 AND L60
L63 55 S (L61 OR L62) NOT (L52 OR L50 OR L54 OR L57)
L64 31 S L63 NOT PY>2000
L65 90 S L44 AND L46 AND L47 AND L60 AND L49
L66 7 S L65 NOT (L61 OR L62 OR L52 OR L50 OR L54 OR L57)
L67 91 S L44 AND L46 AND L47 AND L60 AND L43
L68 1 S L67 NOT (L61 OR L62 OR L52 OR L50 OR L54 OR L57 OR L65)

FILE 'SCISEARCH'

L69 93 S VUV/TI AND EXCITATION/TI
L70 3 S L69 AND PROPERTIES/TI
E YOU H, 2000, V61/RE
E YOU H, 2000, V61, P1985/RE

L51 ANSWER 1 OF 10 WPIX (C) 2003 THOMSON DERWENT
 AN 2001-248019 [26] WPIX
 DNC C2001-074820
 TI Preparation of alpha, beta-unsaturated nitrile comprises vapor phase reaction of alkane with ammonia and molecular oxygen in the presence of a composite metal oxide catalyst.
 DC E16
 PA (ASAHI) ASAHI KASEI KOGYO KK
 CYC 1
 PI JP 2000327650 A 20001128 (200126)* 18p C07C253-24
 ADT JP 2000327650 A JP 1999-140153 19990520
 PRAI JP 1999-140153 19990520
 IC ICM C07C253-24
 ICS B01J027-057; C07C255-08
 ICA C07B061-00
 AB JP2000327650 A UPAB: 20010515
 NOVELTY - Preparation of alpha , beta -unsaturated nitrile comprises vapor phase reaction of alkane with ammonia and molecular oxygen in the presence of a composite metal oxide catalyst using 2 or more units of multi-staged reaction systems consisting of gas-supplying devices, a reactor and a product separation/recovery device.
 DETAILED DESCRIPTION - Preparation of alpha , beta -unsaturated nitrile (I) comprises:
 (a) supplying alkane, ammonia and molecular oxygen to a first reactor to give (I), in which the concentration of alkane is higher than that in the last reactor and the conversion of alkane is lower than that in the last reactor,
 (b) separation/recovery of (I),
 (c) supplying the residual gases to the next reactor,
 (d) repeating procedure (a)-(c), and reacting the materials with 70-95 % conversion of alkane at the last reactor,
 (e) recovering (I) and
 (f) discharging the residual gases outside the reaction system.
 USE - None given.
 ADVANTAGE - By simplifying the separation/recovery process of the residual gaseous material, operation and maintenance of the equipment become easy. The conflicting factors of alkane conversion and nitrile selectivity are overcome by selecting particular catalytic conditions. Nitrile is prepared in high yield.
 Dwg.0/7
 FS CPI
 FA AB; DCN
 MC CPI: E10-A15B; N01; N02; N03; N04

L51 ANSWER 2 OF 10 WPIX (C) 2003 THOMSON DERWENT
 AN 2000-380425 [33] WPIX
 DNC C2000-115640
 TI Ammoxidation catalyst for producing unsaturated nitriles from gas phase oxidation of propane and isobutane - comprises silica support loaded with complex oxide of molybdenum, vanadium, niobium, tin and other specified elements.
 DC A41 E16 J04
 PA (ASAHI) ASAHI KASEI KOGYO KK
 CYC 1
 PI JP 2000126599 A 20000509 (200033)* 8p B01J027-02
 ADT JP 2000126599 A JP 1998-298154 19981020
 PRAI JP 1998-298154 19981020
 IC ICM B01J027-02
 ICS B01J023-28; B01J023-30; B01J023-31; B01J023-32; B01J023-652; B01J023-656; B01J023-68; B01J023-88; B01J027-186; C07C253-24;..

C07C255-08

ICA C07B061-00

AB JP2000126599 A UPAB: 20000712

NOVELTY - A catalyst for producing unsaturated nitriles by gas phase ammoxidation of propane or isobutane comprises 20-60 wt.% of a silica support which is loaded with a complex oxide of molybdenum, vanadium, niobium, tin and other specified elements.

DETAILED DESCRIPTION - A catalyst for producing unsaturated nitriles by gas phase ammoxidation of propane or isobutane comprises 20-60 wt.% of a silica support which is loaded with a complex oxide of formula MolVpXqNbrSnsZtOn . X = Te and/or Sb; Z = Ti, W, Cr, Ta, Zr, Y, Yb, La, Ce, Bi, Hf, Mn, Re, Fe, Ru, Co, Rh, Ni, Pd, Pt, Ag, Zn, B, Al, Ga, In, Ge, Pb, P, Pr, Nd, Sm, Gd, Pm, Eu, Tb, Dy, Ho, Er, Tm, Lu, or alkaline earth metal; p = 0.1- 0.6; q, r = 0.01-0.6; s = 0.001-0.3; t = 0-1; n = oxygen atomic ratio determined by the oxidation numbers of the constituents elements.

INDEPENDENT CLAIMS are included for: (1) preparation of the catalyst by spray-drying a source solution of the constituent elements on a silica support, and firing the resultant dried powder at 500-700 deg. C in a gas atmosphere free of oxygen; and (2) a method of producing unsaturated nitriles by ammoxidizing propane or isobutane in gas phase in the presence of the new catalyst.

USE - For ammoxidation of propane or isobutane to unsaturated nitriles.

ADVANTAGE - The new catalyst is produced in a simple manner, having improved mechanical strength, providing a higher yield of unsaturated nitriles.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A01-D04; E10-A15B; E35; J04-E04; N01-D02; N02; N03

L51 ANSWER 3 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1994-082349 [10] WPIX

DNC C1994-037715

TI Non-destructive trivalent cation exchange of mol. sieves - involves cation exchange with an ion exchange soln. contg. the trivalent cation, a trivalent cation complexing agent and a hydroxide producing component.

DC E17 E37 H04 J01 J04

IN KLOTZ, M R

PA (STAD) AMOCO CORP

CYC 1

PI US 5292697 A 19940308 (199410)* 12p B01J029-00

ADT US 5292697 A US 1992-980586 19921123

PRAI US 1992-980586 19921123

IC ICM B01J029-00

ICS B01J037-30

AB US 5292697 A UPAB: 19940421

Nondestructive trivalent cation ion exchanging at least one mol. sieve with at least one trivalent cation. The ion exchange is carried out at ion exchange conditions with an ion exchange soln. contg. the trivalent cation, a trivalent complexing agent which is alpha hydroxy carboxylic acid, alpha amino-carboxylic acid, beta amino-carboxylic acid, gamma hydroxy-carboxylic acid, gamma amino-carboxylic acid, lactic acid, tartaric acid, glycine or 15-crown-5 and a suitable amt. of a hydroxide-producing component to form a soln. with pH 4-8.

At least one mol. sieve is a zeolite, pref. mordenite, faujasite, beta zeolite or ZSM-5; or is a gallosilicate or borosilicate. The trivalent cation is of Al, Ga, In, Th, Fe, Cr, Sc, Y, Ca, La, Ps, Nd, Sa, Eu, Gd, Tb, Dy.

USE/ADVANTAGE - Cation exchanged mol. sieves are useful as adsorbents

and catalysts esp. for hydrocarbon conversion processes. This method for ion exchange provides more control over catalytic conversion and selectivity to given prods.. Reduces framework metal leaching. Catalysts have increased activity and selectivity.

Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: E31-P02A; E31-P05A; E31-Q08; H04-E05; H04-F02E; J01-D01; J01-E03C;
J04-E04; N01-D02; N03-G; N06-A; N06-B

L51 ANSWER 4 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1993-364424 [46] WPIX

CR 1985-199977 [33]; 1993-364417 [46]; 1994-298806 [37]

DNN N1993-281710 DNC C1993-161162

TI Treating exhaust gas from semiconductor prodn. appts. - by passing through a packed solid metal oxide layer to lower the silane, phosphine, di borane and/or arsine content.

DC E32 E36 J01 L03 U11

PA (MITK) MITSUI TOATSU CHEM INC

CYC 1

PI JP 05269347 A 19931019 (199346)* 9p B01D053-36

JP 07083820 B2 19950913 (199541) 9p B01D053-86

ADT JP 05269347 A Div ex JP 1983-230587 19831208, JP 1993-18647 19831208; JP 07083820 B2 Div ex JP 1983-230587 19831208, JP 1993-18647 19831208

FDT JP 07083820 B2 Based on JP 05269347

PRAI JP 1983-230587 19831208; JP 1993-18647 19831208

IC ICM B01D053-36; B01D053-86

ICS B01D053-34; B01D053-46; B01J020-04; B01J020-06

AB JP 05269347 A UPAB: 20001130

Treating an exhaust gas (G) contg. silane together with phosphine, diborane, and/or arsine from appts. for producing semiconductor comprises passing gas (G) through a packed layer of a solid metal oxide (M) to efficiently decrease content of silane to less than 0.5 ppm together with phosphine, diborane, and/or arsine.

Solid metal oxide (M) is pref. of at least one kind of Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, Ba, Al, Ga, In, Tl, Si, Ge, Sn, Pb, Sb, Bi, Cu, Ag, Au, Zn, Cd, Hg, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Y, Zr, Nb, Mo, Ru, Rh, Pd, Hf, Ta, W, Re, Os, Pt, La Ce, Pr, Nd, Pm, Sm, Eu, Gd, Yb, Dy, Ho, Er, Tm, Yb, Lu, Th, U etc.

USE/ADVANTAGE - An exhaust gas contg. silane-cpds. e.g. monosilane, disilane, trisilane, etc. together with phosphine, diborane, and/or arsine from an appts. for producing semiconductor, e.g. single crystal silicon, polycrystal, amorphous silicon, film of silicon-oxide, film of silicon-nitride, can be treated to render it non-toxic.

Dwg.1/1

FS CPI EPI

FA AB; GI; DCN

MC CPI: E11-Q02; E31-D04; E31-K07; E31-L; E31-P06B; E31-Q02; J01-E02;

L04-A01; L04-C01

EPI: U11-A01A; U11-A08A2

L51 ANSWER 5 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1993-364417 [46] WPIX

CR 1985-199977 [33]; 1993-364424 [46]; 1994-298806 [37]

DNN N1993-281706 DNC C1993-161155

TI Treating agent for exhaust gas of silane system gap - used for treating exhaust gas which e.g. contains phosphine, di-borane or arsine with silane gas, used for gas exhausted from semiconductor appts..

DC E32 E36 J01 L03 U11

PA (MITK) MITSUI TOATSU CHEM INC

CYC 1

PI JP 05269339 A 19931019 (199346)* 9p B01D053-34
 JP 07024738 B2 19950322 (199516) 9p B01D053-46
 ADT JP 05269339 A Div ex JP 1983-230587 19831208, JP 1993-18646 19831208; JP 07024738 B2 Div ex JP 1983-230587 19831208, JP 1993-18646 19831208
 FDT JP 07024738 B2 Based on JP 05269339
 PRAI JP 1983-230587 19831208; JP 1993-18646 19831208
 IC ICM B01D053-34; B01D053-46
 ICS B01D053-36; B01D053-86; B01J020-04; B01J020-06
 AB JP 05269339 A UPAB: 19950508
 The treating agent is used for exhaust gas contg. silane system gas exhausted from a semiconductor appts. The agent contains solid metal oxide as a principal component. The solid metal oxide is oxide of the metal of at least one of Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, Ba, Al, Ga, In, Tl, Si, Ge, Sn, Pb, Sb, Bi, Cu, Ag, Au, Zn, Cd, Hg, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Y, Zr, Nb, Mo, Ru, Rh, Pd, Hf, Ta, W, Re, Os, Pt, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, or U. The exhaust gas may contain phosphine, di-borane, or arsine, with silane gas.
 USE/ADVANTAGE - By containing the agent with exhaust gas of silane system gas for producing a semiconductor, silane system gas in the exhaust gas is removed efficiently to the concn. up to 0.5 ppm.
 In an example, the treating agent which consisted of Al₂O₃ (30-40 mesh) was packed in a quartz tube as a packed layer 2. Monosilane (113 ppm) contg. gas was passed through the packed layer. The treated gas obtd. from the exit was analysed by a gas chromatography. At room temp. and at 200 deg. C., monosilane was not detected in the treated gas.
 Dwg.0/1
 Dwg.0/1
 FS CPI EPI
 FA AB; DCN
 MC CPI: E11-Q02; E31-D04; E31-K07; E31-L; E31-P06B; E31-Q02; J01-E02; L04-A
 EPI: U11-A01A

L51 ANSWER 6 OF 10 WPIX (C) 2003 THOMSON DERWENT
 AN 1990-101139 [14] WPIX
 DNC C1990-044385
 TI Prepn. of calcium contg. alkoxylation catalysts - useful for preparing alkoxylation prods. having beneficial narrow mol. wt. ranges.
 DC A97 E19 J04
 IN KING, S W
 PA (UNIC) UNION CARBIDE CHEM & PLASTICS TECHNOLOGY; (UNIC) UNION CARBIDE CHEM; (UNIC) UNION CARBIDE CHEM & PLASTICS
 CYC 10
 PI EP 361617 A 19900404 (199014)* EN 27p
 R: BE DE FR GB IT NL SE
 JP 02135146 A 19900524 (199027)
 JP 03229641 A 19911011 (199147)#
 US 5114900 A 19920519 (199223) 17p B01J031-00
 CA 1338192 C 19960326 (199623) C07C043-13
 ADT EP 361617 A EP 1989-202440 19890929; JP 02135146 A JP 1989-256929 19890930; JP 03229641 A JP 1990-20535 19900201; US 5114900 A US 1988-251433 19880930; CA 1338192 C CA 1989-614446 19890929
 PRAI US 1988-251433 19880930
 REP A3...9145; EP 133715; EP 289159; EP 46582; EP 92256; No-SR.Pub
 IC B01F017-42; B01J027-05; B01J031-12; C07B061-00; C07C041-03; C07C043-11
 ICM B01J031-00; C07C043-13
 ICS B01F017-42; B01J027-05; B01J031-12; C07B061-00; C07C041-03; C07C043-11; C07F003-00
 AB EP 361617 A UPAB: 19930928
 Alkoxylation catalyst is prepd. as follows: (a) a Ca source (I) (Ca metal or Ca-contg. cpd.) is reacted or solubilised (at least partially) by mixing it with an activator Za-X-Q-Y-Z'b (II) (X, Y = O, N, S or P; a, b

satisfy valences; Q = organic radical which is electropositive or neutral relative to X and/or Y; Z, Z' = H or non-interfering radical) to give a Ca-contg. compsn. or titratable alkalinity; (b) a metal source (III) (di- or polyvalent metal or metal-contg. cpd.; not contg. Ca) is reacted with an organic cpd. (IV) having at least one active H; (c) the Ca-contg. compsn. of step (a) is reacted with the metal-contg. compsn. of step (b); and (d) the resulting precursor compsn. is reacted with a divalent or polyvalent oxyacid (V) (or di- or polyvalent salt; or mixts.) to afford an alkoxylation catalyst.

USE/ADVANTAGE - The prepd. catalysts are useful in the manufacture of a range of alkoxyated prods. having a narrow distribution at higher levels of alkoxylation. In partic., the catalysts are useful in the prepn. of premium quality alkoxyates such as 'Carbowax', and 'Tergitol' (both RTM).

FS CPI

FA AB

MC CPI: A05-H03; A10-E08A; E05-B; E05-G; E05-L01; E05-L03D; E05-M; E05-P; E05-Q; E10-E04C; E10-E04F; J04-E04; N05

L51 ANSWER 7 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1990-101138 [14] WPIX

DNC C1990-044384

TI Prepn. of metallic alkoxylation catalyst - by mixing Gp-IIa metal source with activator, mixing metal source with active hydrogen contg. organic cpd. and combining mixts..

DC A97 E19 J04

IN KING, S W

PA (UNIC) UNION CARBIDE CHEM & PLASTICS TECHNOLOGY; (UNIC) UNION CARBIDE CHEM; (UNIC) UNION CARBIDE CHEM & PLASTICS

CYC 10

PI EP 361616 A 19900404 (199014)* EN 27p

R: BE DE FR GB IT NL SE

JP 02139041 A 19900529 (199027)

JP 03229643 A 19911011 (199147)#

US 5112788 A 19920512 (199222) 17p B01J031-00

CA 1337940 C 19960116 (199614) C07C041-03

ADT EP 361616 A EP 1989-202439 19890929; JP 02139041 A JP 1989-256930

19890930; JP 03229643 A JP 1990-20536 19900201; US 5112788 A US

1988-251432 19880930; CA 1337940 C CA 1989-614598 19890929

PRAI US 1988-251432 19880930

REP A3...9145; EP 82569; EP 92256; No-SR.Pub; US 4375564; US 4453023

IC B01F017-42; B01J031-12; C07B061-00; C07C041-03; C07C043-11; C11D001-72

ICM B01J031-00; C07C041-03

ICS B01F017-42; B01J031-12; C07B061-00; C07C043-11; C07C043-13;

C11D001-72

AB EP 361616 A UPAB: 19930928

Alkoxylation catalyst is prepd. as follows: Gp. IIA metal source (I) (metal or metal-contg. cpd.; not Ca) is reacted or solubilised (at least partially) by mixing it with an activator Za-X-Q-Y-Z'b (II) (X,Y = O, N, S or P; a, b satisfy valences; Q = organic radical which is electropositive or neutral relative to X and/or Y; Z, Z' = H or non-interfering radical) to give a Gp IIA metal-contg. compsn. of titratable alkalinity; (b) a metal source (III) (di- or polyvalent metal or metal-contg. cpd.; not contg. Ca) is reacted with an organic cpd. (IV) having at least one active H; (c) the Gp IIA metal-contg. compsn. of step (a) is reacted with the metal-contg. compsn. of step (b); and (d) the resulting precursor compsn. is reacted with a divalent or polyvalent oxyacid (V) (or di- or polyvalent salt; or mixts.) to afford an alkoxylation catalyst.

USE/ADVANTAGE - The prepd. catalysts are useful in the manufacture of a range of alkoxyated prods. having a narrow distribution at higher levels of alkoxylation. In partic. the catalysts are useful in the prepn.

of premium quality alkoxylates such as 'Carbowax' or 'Tergitol' (both RTM).

0/0

FS CPI

FA AB

MC CPI: A05-H03; A10-E08A; E05-B; E05-G; E05-L01; E05-L03D; E05-M; E05-P; E05-Q; E10-E04C; E10-E04F; J04-E04; N05

L51 ANSWER 8 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1988-210159 [30] WPIX

DNC C1988-094027

TI Prodn. of multi component oxide - by adding water to alkoxide, chloride, sulphate and nitrate of specified elements, etc..

DC E37 L02

PA (SHIH) SEIKO EPSON CORP

CYC 1

PI JP 63147831 A 19880620 (198830)* 6p

ADT JP 63147831 A JP 1986-293208 19861209

PRAI JP 1986-293208 19861209

IC C03B008-02

AB JP 63147831 A UPAB: 19930923

Prodn. of a multicomponent oxide comprises adding water to an alkoxide, chloride, sulphate and nitrate etc. of more than one of specified elements, to produce a hydrolysed sol. soln., then adding micro powder of more than one element. Element is one of Li, Be, B, Na, Mg, Al, Si, P, K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Rb, Sr, Y, Zr, Nb, Mo, Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Cs, Ba, Ta, W, Be, Sc, Tc, Hf, Ac, Pa, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Fr, Ra, Th, U, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu.

ADVANTAGE - The produced multicomponent oxides shows high homogeneity.

0/0

FS CPI

FA AB; DCN

MC CPI: E31-K04; E31-M; E31-P05; E31-P06E; E31-Q04; E31-Q08; E33; E34; E35; L02-G12

L51 ANSWER 9 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1987-108782 [15] WPIX

DNN N1987-081774 DNC C1987-045229

TI Particulate magnetic oxide compsns. - based on ferric- and at least one divalent-oxide.

DC E31 L03 T03 V02

IN BONINO, SALVAING C; GOUGEON, M; MOLLARD, P; ROUSSET, A; TAILHADES, P; BONINOSALV, C; RUSSET, A

PA (CNRS) CNRS CENT NAT RECH SCI; (UYTO-N) UNIV TOULOUSE SABATIER; (ROUS-I) ROUSSET A; (UYTO-N) UNIV SABATIER P TOULOUSE

CYC 13

PI WO 8702173 A 19870409 (198715)* FR 28p

RW: AT BE CH DE FR GB IT NL SE

W: JP LU US

FR 2587990 A 19870403 (198719)

EP 240529 A 19871014 (198741) FR 15p

R: AT BE CH DE FR GB IT LI LU NL SE

JP 63501834 W 19880721 (198835)

US 4808327 A 19890228 (198911) 9p

EP 240529 B 19891213 (198950) FR

R: AT BE CH DE FR GB IT LI LU NL SE

DE 3667563 G 19900118 (199004)

EP 240529 B2 19931110 (199345) FR 14p G11B005-706

R: AT BE CH DE FR GB IT LI LU NL SE

ADT WO 8702173 A WO 1986-FR337 19860930; FR 2587990 A FR 1985-14439 19850930;
EP 240529 A EP 1986-905853 19860930; JP 63501834 W JP 1986-505197
19860930; US 4808327 A US 1987-62609 19870601; EP 240529 B2 EP 1986-905853
19860930, WO 1986-FR337 19860930

FDT EP 240529 B2 Based on WO 8702173

PRAI FR 1985-14439 19850930

REP DE 3443049; FR 1311452; FR 2180575; FR 2245345; GB 644639; GB 701224;
No-Citns.; 8.Jnl.Ref; DE 2221264; DE 2347486; US 4321302

IC C01G049-00; C04B035-26; G11B005-70; H01F001-11

ICM G11B005-706

ICS C01G049-00; C04B035-26; G11B005-70; H01F001-11

AB WO 8702173 A UPAB: 19931202

Particulate magnetic oxide compsns. based on Fe₂O₃ and at least one oxide of Co, Fe, Cu, Zn, Mg, Ni, Mn and Cd, contain 0.2-5 wt.% of at least one additive or substituent in the form of oxide, selected from the alkali(ne earth) metals, B, the of gps. III, IV, V with mol. wt. above 26. the 3d and 4d transistion metals other than thise already mentioned and the rare earth metals it being understood that at when an alkali metal or Sn is present, there is at least one other additive or substituent. Compsns. have a spirel structure with vacant sites.

ADVANTAGE - The novel additives favour internal sintering and improve the texture of the particles while avoiding external sintering. This homogeneity of texture leads to diminution of background noise.

Dwg.0/0

FS CPI EPI

FA AB; DCN

MC CPI: E31; E33; E34; E35; E35-U01; L02-G07A; L03-B02B

EPI: T03-A01A1; V02-A01B

L51 ANSWER 10 OF 10 WPIX (C) 2003 THOMSON DERWENT

AN 1984-104411 [17] WPIX

DNN N1984-077415 DNC C1984-044465

TI Colouring watch case by anodic oxidn. - using metal soln. contg. metal alkoxide improves coating adhesiveness.

DC E12 M14

PA (DASE) SEIKO DENSHI KOGYO KK

CYC 1

PI JP 59047385 A 19840317 (198417)* 3p

ADT JP 59047385 A JP 1982-159086 19820913

PRAI JP 1982-159086 19820913

IC C23F005-02; G04B037-22

AB JP 59047385 A UPAB: 19930925

The outer part of watch has a mono- or multi-coloured surface formed by applying a metal soln. to the surface and then heat treating the surface. The metal soln. may contain one or more of Li, Be, B, C, Na, Mg, Al, Si, P, S, K, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Cd, In, Sn, Sb, Te, Cs, Ba, La, Hf, Ta, W, Hg, Tl, Pb, Bi, Ce, Pr, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa, U and Pu.

The soln. may contain a metal alkoxide as a metal source. The metal alkoxide has the formula of M(OR)_x, wherein M is a metal, and R is a methyl, ethyl, butyl or propyl gp. By heat treating the soln.-applied surface, an oxide, nitride or carbide is formed on it.

A Watch case is coloured With Various tones by changing the condition of anodic oxidn. But, the anodized film has pooo wear resistance and adhesiveness. This defect is now eliminated by applying the metal soln. onto the surface of the watch case.

FS CPI

FA AB

MC CPI: E31-D; E31-H05; E31-N05; M14-C

L53 ANSWER 1 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 2001-248019 [26] WPIX

DNC C2001-074820

TI Preparation of alpha, beta-unsaturated nitrile comprises vapor phase reaction of alkane with ammonia and molecular oxygen in the presence of a composite metal oxide catalyst.

DC E16

PA (ASAH) ASAHI KASEI KOGYO KK

CYC 1

PI JP 2000327650 A 20001128 (200126)* 18p C07C253-24

ADT JP 2000327650 A JP 1999-140153 19990520

PRAI JP 1999-140153 19990520

IC ICM C07C253-24

ICS B01J027-057; C07C255-08

ICA C07B061-00

AB JP2000327650 A UPAB: 20010515

NOVELTY - Preparation of alpha, beta -unsaturated nitrile comprises vapor phase reaction of alkane with ammonia and molecular oxygen in the presence of a composite metal oxide catalyst using 2 or more units of multi-staged reaction systems consisting of gas-supplying devices, a reactor and a product separation/recovery device.

DETAILED DESCRIPTION - Preparation of alpha, beta -unsaturated nitrile (I) comprises:

(a) supplying alkane, ammonia and molecular oxygen to a first reactor to give (I), in which the concentration of alkane is higher than that in the last reactor and the conversion of alkane is lower than that in the last reactor,

(b) separation/recovery of (I),

(c) supplying the residual gases to the next reactor,

(d) repeating procedure (a)-(c), and reacting the materials with 70-95 % conversion of alkane at the last reactor,

(e) recovering (I) and

(f) discharging the residual gases outside the reaction system.

USE - None given.

ADVANTAGE - By simplifying the separation/recovery process of the residual gaseous material, operation and maintenance of the equipment become easy. The conflicting factors of alkane conversion and nitrile selectivity are overcome by selecting particular catalytic conditions. Nitrile is prepared in high yield.

Dwg.0/7

FS CPI

FA AB; DCN

MC CPI: E10-A15B; N01; N02; N03; N04

L53 ANSWER 2 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 2000-380425 [33] WPIX

DNC C2000-115640

TI Ammoxidation catalyst for producing unsaturated nitriles from gas phase oxidation of propane and isobutane - comprises silica support loaded with complex oxide of molybdenum, vanadium, niobium, tin and other specified elements.

DC A41 E16 J04

PA (ASAH) ASAHI KASEI KOGYO KK

CYC 1

PI JP 2000126599 A 20000509 (200033)* 8p B01J027-02

ADT JP 2000126599 A JP 1998-298154 19981020

PRAI JP 1998-298154 19981020

IC ICM B01J027-02

ICS B01J023-28; B01J023-30; B01J023-31; B01J023-32; B01J023-652;

B01J023-656; B01J023-68; B01J023-88; B01J027-186; C07C253-24;
C07C255-08

ICA C07B061-00

AB JP2000126599 A UPAB: 20000712

NOVELTY - A catalyst for producing unsaturated nitriles by gas phase ammoxidation of propane or isobutane comprises 20-60 wt.% of a silica support which is loaded with a complex oxide of molybdenum, vanadium, niobium, tin and other specified elements.

DETAILED DESCRIPTION - A catalyst for producing unsaturated nitriles by gas phase ammoxidation of propane or isobutane comprises 20-60 wt.% of a silica support which is loaded with a complex oxide of formula MolVpXqNbrSnsZtOn . X = Te and/or Sb; Z = Ti, W, Cr, Ta, Zr, Y, Yb, La, Ce, Bi, Hf, Mn, Re, Fe, Ru, Co, Rh, Ni, Pd, Pt, Ag, Zn, B, Al, Ga, In, Ge, Pb, P, Pr, Nd, Sm, Gd, Pm, Eu, Tb, Dy, Ho, Er, Tm, Lu, or alkaline earth metal; p = 0.1- 0.6; q, r = 0.01-0.6; s = 0.001-0.3; t = 0-1; n = oxygen atomic ratio determined by the oxidation numbers of the constituents elements .

INDEPENDENT CLAIMS are included for: (1) preparation of the catalyst by spray-drying a source solution of the constituent elements on a silica support, and firing the resultant dried powder at 500-700 deg. C in a gas atmosphere free of oxygen; and (2) a method of producing unsaturated nitriles by ammoxidizing propane or isobutane in gas phase in the presence of the new catalyst.

USE - For ammoxidation of propane or isobutane to unsaturated nitriles.

ADVANTAGE - The new catalyst is produced in a simple manner, having improved mechanical strength, providing a higher yield of unsaturated nitriles.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A01-D04; E10-A15B; E35; J04-E04; N01-D02; N02; N03

L53 ANSWER 3 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1995-114845 [15] WPIX

DNC C1995-052402

TI Prepn. of monolithic metal oxide aerogels - by hydrolysis of metal alkoxide soln followed by gelling and supercritical extraction of solvent.

DC E12 J04 L02

IN CORONADO, P R; DROEGE, M W; HAIR, L M

PA (REGC) UNIV CALIFORNIA

CYC 1

PI US 5395805 A 19950307 (199515)* 8p C03C003-097

ADT US 5395805 A US 1993-36997 19930325

PRAI US 1993-36997 19930325

IC ICM C03C003-097

ICS B01J013-00; C04B038-00

AB US 5395805 A UPAB: 19950425

A novel method for making monolithic, transparent metal oxide aerogels comprises: (a) hydrolysing a metal alkoxide (I) in a soln. comprising (I), a substoichiometric amt. of water (II), an alcohol solvent (III) and a catalyst (IV) to form a colloidal soln.; (b) allowing the soln. to gel to form an alcogel; (c) containing the alcogel within a containment vessel (CV); (d) sealing (CV) but in such a way that the sealed (CV) is gas-permeable; and (e) supercritically drying the alcogel in (CV) to form the desired aerogel.

ADVANTAGE - The method provides transparent monolithic metal oxide aerogels of varying densities.

Dwg.0/6

FS CPI

FA AB; GI; DCN

MC CPI: E31-P01; E31-P06E; E31-Q04; E31-Q08; E34-C; E34-E; E35; J04-A03;
L02-A02A; L02-G11; L02-G12

L53 ANSWER 4 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1994-082349 [10] WPIX

DNC C1994-037715

TI Non-destructive trivalent cation exchange of mol. sieves - involves cation exchange with an ion exchange soln. contg. the trivalent cation, a trivalent cation complexing agent and a hydroxide producing component.

DC E17 E37 H04 J01 J04

IN KLOTZ, M R

PA (STAD) AMOCO CORP

CYC 1

PI US 5292697 A 19940308 (199410)* 12p B01J029-00

ADT US 5292697 A US 1992-980586 19921123

PRAI US 1992-980586 19921123

IC ICM B01J029-00

ICS B01J037-30

AB US 5292697 A UPAB: 19940421

Nondestructive trivalent cation ion exchanging at least one mol. sieve with at least one trivalent cation. The ion exchange is carried out at ion exchange conditions with an ion exchange soln. contg. the trivalent cation, a trivalent complexing agent which is alpha hydroxy carboxylic acid, alpha amino-carboxylic acid, beta amino-carboxylic acid, gamma hydroxy-carboxylic acid, gamma amino-carboxylic acid, lactic acid, tartaric acid, glycine or 15-crown-5 and a suitable amt. of a hydroxide-producing component to form a soln. with pH 4-8.

At least one mol. sieve is a zeolite, pref. mordenite, faujasite, beta zeolite or ZSM-5; or is a gallosilicate or borosilicate. The trivalent cation is of Al, Ga, In, Th, Fe, Cr, Sc, Y, Ca, La, Ps, Nd, Sa, Eu, Gd, Tb, Dy.

USE/ADVANTAGE - Cation exchanged mol. sieves are useful as adsorbents and catalysts esp. for hydrocarbon conversion processes. This method for ion exchange provides more control over catalytic conversion and selectivity to given prods.. Reduces framework metal leaching. Catalysts have increased activity and selectivity.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: E31-P02A; E31-P05A; E31-Q08; H04-E05; H04-F02E; J01-D01; J01-E03C;
J04-E04; N01-D02; N03-G; N06-A; N06-B

L53 ANSWER 5 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1993-364424 [46] WPIX

CR 1985-199977 [33]; 1993-364417 [46]; 1994-298806 [37]

DNN N1993-281710 DNC C1993-161162

TI Treating exhaust gas from semiconductor prodn. appts. - by passing through a packed solid metal oxide layer to lower the silane, phosphine, di borane and/or arsine content.

DC E32 E36 J01 L03 U11

PA (MITK) MITSUI TOATSU CHEM INC

CYC 1

PI JP 05269347 A 19931019 (199346)* 9p B01D053-36

JP 07083820 B2 19950913 (199541) 9p B01D053-86

ADT JP 05269347 A Div ex JP 1983-230587 19831208, JP 1993-18647 19831208; JP 07083820 B2 Div ex JP 1983-230587 19831208, JP 1993-18647 19831208

FDT JP 07083820 B2 Based on JP 05269347

PRAI JP 1983-230587 19831208; JP 1993-18647 19831208

IC ICM B01D053-36; B01D053-86

ICS B01D053-34; B01D053-46; B01J020-04; B01J020-06

AB JP 05269347 A UPAB: 20001130

Treating an exhaust gas (G) contg. silane together with phosphine, diborane, and/or arsine from appts. for producing semiconductor comprises passing gas (G) through a packed layer of a solid metal oxide (M) to efficiently decrease content of silane to less than 0.5 ppm together with phosphine, diborane, and/or arsine.

Solid metal oxide (M) is pref. of at least one kind of Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, Ba, Al, Ga, In, Tl, Si, Ge, Sn, Pb, Sb, Bi, Cu, Ag, Au, Zn, Cd, Hg, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Y, Zr, Nb, Mo, Ru, Rh, Pd, Hf, Ta, W, Re, Os, Pt, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Yb, Dy, Ho, Er, Tm, Yb, Lu, Th, U etc.

USE/ADVANTAGE - An exhaust gas contg. silane-cpds. e.g. monosilane, disilane, trisilane, etc. together with phosphine, diborane, and/or arsine from an appts. for producing semiconductor, e.g. single crystal silicon, polycrystal, amorphous silicon, film of silicon-oxide, film of silicon-nitride, can be treated to render it non-toxic.

Dwg.1/1

FS CPI EPI

FA AB; GI; DCN

MC CPI: E11-Q02; E31-D04; E31-K07; E31-L; E31-P06B; E31-Q02; J01-E02;
L04-A01; L04-C01

EPI: U11-A01A; U11-A08A2

L53 ANSWER 6 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1993-364417 [46] WPIX

CR 1985-199977 [33]; 1993-364424 [46]; 1994-298806 [37]

DNN N1993-281706 DNC C1993-161155

TI Treating agent for exhaust gas of silane system gap - used for treating exhaust gas which e.g. contains phosphine, di-borane or arsine with silane gas, used for gas exhausted from semiconductor appts..

DC E32 E36 J01 L03 U11

PA (MITK) MITSUI TOATSU CHEM INC

CYC 1

PI JP 05269339 A 19931019 (199346)* 9p B01D053-34

JP 07024738 B2 19950322 (199516) 9p B01D053-46

ADT JP 05269339 A Div ex JP 1983-230587 19831208, JP 1993-18646 19831208; JP 07024738 B2 Div ex JP 1983-230587 19831208, JP 1993-18646 19831208..

FDT JP 07024738 B2 Based on JP 05269339

PRAI JP 1983-230587 19831208; JP 1993-18646 19831208

IC ICM B01D053-34; B01D053-46

ICS B01D053-36; B01D053-86; B01J020-04; B01J020-06

AB JP 05269339 A UPAB: 19950508

The treating agent is used for exhaust gas contg. silane system gas exhausted from a semiconductor appts. The agent contains solid metal oxide as a principal component. The solid metal oxide is oxide of the metal of at least one of Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, Ba, Al, Ga, In, Tl, Si, Ge, Sn, Pb, Sb, Bi, Cu, Ag, Au, Zn, Cd, Hg, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Y, Zr, Nb, Mo, Ru, Rh, Pd, Hf, Ta, W, Re, Os, Pt, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, or U. The exhaust gas may contain phosphine, di-borane, or arsine, with silane gas.

USE/ADVANTAGE - By containing the agent with exhaust gas of silane system gas for producing a semiconductor, silane system gas in the exhaust gas is removed efficiently to the concn. up to 0.5 ppm.

In an example, the treating agent which consisted of Al₂O₃ (30-40 mesh) was packed in a quartz tube as a packed layer 2. Monosilane (113 ppm) contg. gas was passed through the packed layer. The treated gas obtd. from the exit was analysed by a gas chromatography. At room temp. and at 200 deg. C., monosilane was not detected in the treated gas.

Dwg.0/1

Dwg.0/1

FS CPI EPI

FA AB; DCN

MC CPI: E11-Q02; E31-D04; E31-K07; E31-L; E31-P06B; E31-Q02; J01-E02; L04-A
EPI: U11-A01A

L53 ANSWER 7 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1990-101139 [14] WPIX

DNC C1990-044385

TI Prepn. of calcium contg. alkoxylation catalysts - useful for preparing alkoxylation prods. having beneficial narrow mol. wt. ranges.

DC A97 E19 J04

IN KING, S W

PA (UNIC) UNION CARBIDE CHEM & PLASTICS TECHNOLOGY; (UNIC) UNION CARBIDE CHEM; (UNIC) UNION CARBIDE CHEM & PLASTICS

CYC 10

PI EP 361617 A 19900404 (199014)* EN 27p

R: BE DE FR GB IT NL SE

JP 02135146 A 19900524 (199027)

JP 03229641 A 19911011 (199147)#

US 5114900 A 19920519 (199223) 17p B01J031-00

CA 1338192 C 19960326 (199623) C07C043-13

ADT EP 361617 A EP 1989-202440 19890929; JP 02135146 A JP 1989-256929

19890930; JP 03229641 A JP 1990-20535 19900201; US 5114900 A US

1988-251433 19880930; CA 1338192 C CA 1989-614446 19890929

PRAI US 1988-251433 19880930

REP A3...9145; EP 133715; EP 289159; EP 46582; EP 92256; No-SR.Pub

IC B01F017-42; B01J027-05; B01J031-12; C07B061-00; C07C041-03; C07C043-11

ICM B01J031-00; C07C043-13

ICS B01F017-42; B01J027-05; B01J031-12; C07B061-00; C07C041-03;

C07C043-11; C07F003-00

AB EP 361617 A UPAB: 19930928

Alkoxylation catalyst is prepd. as follows: (a) a Ca source (I) (Ca metal or Ca-contg. cpd.) is reacted or solubilised (at least partially) by mixing it with an activator $Za-X-Q-Y-Z'b$ (II) (X, Y = O, N, S or P; a, b satisfy valences; Q = organic radical which is electropositive or neutral relative to X and/or Y; Z, Z' = H or non-interfering radical) to give a Ca-contg. compsn. or titratable alkalinity; (b) a metal source (III) (di- or polyvalent metal or metal-contg. cpd.; not contg. Ca) is reacted with an organic cpd. (IV) having at least one active H; (c) the Ca-contg. compsn. of step (a) is reacted with the metal-contg. compsn. of step (b); and (d) the resulting precursor compsn. is reacted with a divalent or polyvalent oxyacid (V) (or di- or polyvalent salt; or mixts.) to afford an alkoxylation catalyst.

USE/ADVANTAGE - The prepd. catalysts are useful in the manufacture of a range of alkoxylation prods. having a narrow distribution at higher levels of alkoxylation. In partic., the catalysts are useful in the prepn. of premium quality alkoxylation catalysts such as 'Carbowax', and 'Tergitol' (both RTM).

FS CPI

FA AB

MC CPI: A05-H03; A10-E08A; E05-B; E05-G; E05-L01; E05-L03D; E05-M; E05-P; E05-Q; E10-E04C; E10-E04F; J04-E04; N05

L53 ANSWER 8 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1990-101138 [14] WPIX

DNC C1990-044384

TI Prepn. of metallic alkoxylation catalyst - by mixing Gp-IIa metal source with activator, mixing metal source with active hydrogen contg. organic cpd. and combining mixts..

DC A97 E19 J04

IN KING, S W

PA (UNIC) UNION CARBIDE CHEM & PLASTICS TECHNOLOGY; (UNIC) UNION CARBIDE CHEM; (UNIC) UNION CARBIDE CHEM & PLASTICS

CYC 10
 PI EP 361616 A 19900404 (199014)* EN 27p
 R: BE DE FR GB IT NL SE
 JP 02139041 A 19900529 (199027)
 JP 03229643 A 19911011 (199147)#
 US 5112788 A 19920512 (199222) 17p B01J031-00
 CA 1337940 C 19960116 (199614) C07C041-03
 ADT EP 361616 A EP 1989-202439 19890929; JP 02139041 A JP 1989-256930
 19890930; JP 03229643 A JP 1990-20536 19900201; US 5112788 A US
 1988-251432 19880930; CA 1337940 C CA 1989-614598 19890929
 PRAI US 1988-251432 19880930
 REP A3...9145; EP 82569; EP 92256; No-SR.Pub; US 4375564; US 4453023
 IC B01F017-42; B01J031-12; C07B061-00; C07C041-03; C07C043-11; C11D001-72
 ICM B01J031-00; C07C041-03
 ICS B01F017-42; B01J031-12; C07B061-00; C07C043-11; C07C043-13;
 C11D001-72
 AB EP 361616 A UPAB: 19930928
 Alkoxylation catalyst is prepd. as follows: Gp. IIA metal source (I)
 (metal or metal-contg. cpd.; not Ca) is reacted or solubilised (at least
 partially) by mixing it with an activator Za-X-Q-Y-Z'b (II) (X,Y = O, N, S
 or P; a, b satisfy valences; Q = organic radical which is electropositive
 or neutral relative to X and/or Y; Z, Z' = H or non-interfering radical)
 to give a Gp IIA metal-contg. compsn. of titratable alkalinity; (b) a
 metal source (III) (di- or polyvalent metal or metal-contg. cpd.; not
 contg. Ca) is reacted with an organic cpd. (IV) having at least one active
 H; (c) the Gp IIA metal-contg. compsn. of step (a) is reacted with the
 metal-contg. compsn. of step (b); and (d) the resulting precursor compsn.
 is reacted with a divalent or polyvalent oxyacid (V) (or di- or polyvalent
 salt; or mixts.) to afford an alkoxylation catalyst.
 USE/ADVANTAGE - The prepd. catalysts are useful in the manufacture of
 a range of alkoxyated prods. having a narrow distribution at higher
 levels of alkoxylation. In partic. the catalysts are useful in the prepn.
 of premium quality alkoxyates such as 'Carbowax' or 'Tergitol' (both
 RTM).
 O/O
 FS CPI
 FA AB
 MC CPI: A05-H03; A10-E08A; E05-B; E05-G; E05-L01; E05-L03D; E05-M; E05-P;
 E05-Q; E10-E04C; E10-E04F; J04-E04; N05
 L53 ANSWER 9 OF 11 WPIX (C) 2003 THOMSON DERWENT
 AN 1988-210159 [30] WPIX
 DNC C1988-094027
 TI Prodn. of multi component oxide - by adding water to alkoxide, chloride,
 sulphate and nitrate of specified elements, etc..
 DC E37 L02
 PA (SHIH) SEIKO EPSON CORP
 CYC 1
 PI JP 63147831 A 19880620 (198830)* 6p
 ADT JP 63147831 A JP 1986-293208 19861209
 PRAI JP 1986-293208 19861209
 IC C03B008-02
 AB JP 63147831 A UPAB: 19930923
 Prodn. of a multicomponent oxide comprises adding water to an alkoxide,
 chloride, sulphate and nitrate etc. of more than one of specified
 elements, to produce a hydrolysed sol. soln., then adding micro powder of
 more than one element. Element is one of Li, Be, B, Na, Mg, Al, Si, P, K,
 Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Rb, Sr, Y, Zr, Nb, Mo, Ru,
 Rh, Pd, Ag, Cd, In, Sn, Sb, Cs, Ba, Ta, W, Be, Sc, Tc, Hf, Ac, Pa, Re, Os,
 Ir, Pt, Au, Hg, Tl, Pb, Bi, Fr, Ra, Th, U, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd,
 Tb, Dy, Ho, Er, Tm, Yb and Lu.

ADVANTAGE - The produced multicomponent oxides shows high homogeneity.

0/0

FS CPI

FA AB; DCN

MC CPI: E31-K04; E31-M; E31-P05; E31-P06E; E31-Q04; E31-Q08; E33; E34; E35;
L02-G12

L53 ANSWER 10 OF 11 WPIX (C) 2003 THOMSON DERWENT

AN 1987-108782 [15] WPIX

DNN N1987-081774 DNC C1987-045229

TI Particulate magnetic oxide compsns. - based on ferric- and at least one divalent-oxide.

DC E31 L03 T03 V02

IN BONINO, SALVAING C; GOUGEON, M; MOLLARD, P; ROUSSET, A; TAILHADES, P;

BONINOSALV, C; RUSSET, A

PA (CNRS) CNRS CENT NAT RECH SCI; (UYTO-N) UNIV TOULOUSE SABATIER; (ROUS-I)

ROUSSET A; (UYTO-N) UNIV SABATIER P TOULOUSE

CYC 13

PI WO 8702173 A 19870409 (198715)* FR 28p

RW: AT BE CH DE FR GB IT NL SE

W: JP LU US

FR 2587990 A 19870403 (198719)

EP 240529 A 19871014 (198741) FR 15p

R: AT BE CH DE FR GB IT LI LU NL SE

JP 63501834 W 19880721 (198835)

US 4808327 A 19890228 (198911) 9p

EP 240529 B 19891213 (198950) FR

R: AT BE CH DE FR GB IT LI LU NL SE

DE 3667563 G 19900118 (199004)

EP 240529 B2 19931110 (199345) FR 14p G11B005-706

R: AT BE CH DE FR GB IT LI LU NL SE

ADT WO 8702173 A WO 1986-FR337 19860930; FR 2587990 A FR 1985-14439 19850930;

EP 240529 A EP 1986-905853 19860930; JP 63501834 W JP 1986-505197

19860930; US 4808327 A US 1987-62609 19870601; EP 240529 B2 EP 1986-905853

19860930, WO 1986-FR337 19860930

FDT EP 240529 B2 Based on WO 8702173

PRAI FR 1985-14439 19850930

REP DE 3443049; FR 1311452; FR 2180575; FR 2245345; GB 644639; GB 701224;

No-Citns.; 8.Jnl.Ref; DE 2221264; DE 2347486; US 4321302

IC C01G049-00; C04B035-26; G11B005-70; H01F001-11

ICM G11B005-706

ICS C01G049-00; C04B035-26; G11B005-70; H01F001-11

AB WO 8702173 A UPAB: 19931202

Particulate magnetic oxide compsns. based on Fe₂O₃ and at least one oxide of Co, Fe, Cu, Zn, Mg, Ni, Mn and Cd, contain 0.2-5 wt.% of at least one additive or substituent in the form of oxide, selected from the alkali(ne earth) metals, B, the of gps. III, IV, V with mol. wt. above 26 the 3d and 4d transistion metals other than thise already mentioned and the rare earth metals it being understood that at when an alkali metal or Sn is present, there is at least one other additive or substituent. Compsns. have a spirel structure with vacant sites.

ADVANTAGE - The novel additives favour internal sintering and improve the texture of the particles while avoiding external sintering. This homogeneity of texture leads to diminution of background noise.

Dwg.0/0

FS CPI EPI

FA AB; DCN

MC CPI: E31; E33; E34; E35; E35-U01; L02-G07A; L03-B02B

EPI: T03-A01A1; V02-A01B

L53 ANSWER 11 OF 11 WPIX (C) 2003 THOMSON DERWENT
 AN 1984-104411 [17] WPIX
 DNN N1984-077415 DNC C1984-044465
 TI Colouring watch case by anodic oxidn. - using metal soln. contg. metal
 alkoxide improves coating adhesiveness.

DC E12 M14

PA (DASE) SEIKO DENSHI KOGYO KK

CYC 1

PI JP 59047385 A 19840317 (198417)* 3p

ADT JP 59047385 A JP 1982-159086 19820913

PRAI JP 1982-159086 19820913

IC C23F005-02; G04B037-22

AB JP 59047385 A UPAB: 19930925

The outer part of watch has a mono- or multi-coloured surface formed by applying a metal soln. to the surface and then heat treating the surface. The metal soln. may contain one or more of Li, Be, B, C, Na, Mg, Al, Si, P, S, K, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Cd, In, Sn, Sb, Te, Cs, Ba, La, Hf, Ta, W, Hg, Tl, Pb, Bi, Ce, Pr, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa, U and Pu.

The soln. may contain a metal alkoxide as a metal source. The metal alkoxide has the formula of $M(OR)_x$, wherein M is a metal, and R is a methyl, ethyl, butyl or propyl gp. By heat treating the soln.-applied surface, an oxide, nitride or carbide is formed on it.

A Watch case is coloured With Various tones by changing the condition of anodic oxidn. But, the anodized film has poor wear resistance and adhesiveness. This defect is now eliminated by applying the metal soln. onto the surface of the watch case.

FS CPI

FA AB

MC CPI: E31-D; E31-H05; E31-N05; M14-C

L58 ANSWER 3 OF 6 WPIX (C) 2003 THOMSON DERWENT
 AN 2001-141479 [15] WPIX
 DNC C2001-041995
 TI Preparation of alpha,beta-unsaturated nitriles comprises vapor phase catalytic ammoxidation of alkane in multistage reactor, part of gaseous effluent after separating nitrile in first unit being recycled..
 DC A41 E16
 PA (ASAH) ASAH KASEI KOGYO KK
 CYC 1
 PI JP 2000309569 A 20001107 (200115)* 19p C07C253-24
 ADT JP 2000309569 A JP 1999-120922 19990428
 PRAI JP 1999-120922 19990428
 IC ICM C07C253-24
 ICS B01J023-16; B01J023-38; B01J023-70; B01J027-02; B01J027-057; C07B061-00; C07C255-07
 AB JP2000309569 A UPAB: 20010317
 NOVELTY - Preparation of alpha,beta-unsaturated nitriles comprises vapor phase catalytic oxidation of alkane and ammonia in the presence of a composite metal oxide catalyst using a multistage reactor system of two connected reaction units composed of a reaction gas supplying apparatus, a vapor phase catalytic oxidation reactor and a nitrile recovery apparatus.
 DETAILED DESCRIPTION - An alpha,beta- unsaturated nitrile is prepared in the following step (a) or (b), a gaseous effluent is supplied into the first reaction unit by the step (c), and the gaseous effluent is discharged outside the reaction system in the second reaction unit by the step (d):
 (a) A reaction gas containing a 3-8C alkane (4-50vol.%) and having a composition of the alkane/NH3/O2/diluent gas (1:0.1-1.5:0.5-3.5:0-20 mole fraction) is vapor phase catalytically ammoxidized in the reactor containing the composite metal oxide catalyst,
 (b) The produced unsaturated nitrile is separated and recovered from the reactor effluent,
 (c) After recovering the unsaturated nitrile, 30-92vol% of the gaseous effluent is recycled into (a) of the first reactor, and the remainder is supplied to (a) of the second reactor,
 (d) The gaseous effluent is discharged outside the reaction system.
 USE - None given
 ADVANTAGE - Equipments in the recycling are simplified and the operation is easy. The unsaturated nitriles with a high yield are prepared.
 Dwg.0/9
 FS CPI
 FA AB; DCN
 MC CPI: A01-D04; E10-A15B; N02; N03; N03-A; N03-C01; N03-C03; N03-D02

L58 ANSWER 4 OF 6 WPIX (C) 2003 THOMSON DERWENT
 AN 2000-338767 [29] WPIX
 DNC C2000-102745
 TI Sol-gel formation of combinatorial arrays of materials involves mixing dissolved organic or inorganic components in different mixtures, dispensing into different regions on substrate, and heating.
 DC E19 E37 H04 J04 L02
 IN DEVENNEY, M; GIAQUINTA, D; GOLDWASSER, I; HALL, K A
 PA (SYMY-N) SYMYX TECHNOLOGIES
 CYC 90
 PI WO 2000017413 A2 20000330 (200029)* EN 67p C23C014-04
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
 OA PT SD SE SL SZ TZ UG ZW
 W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES
 FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS

LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
 TM TR TT UA UG US UZ VN YU ZA ZW

AU 9962552 A 20000410 (200035) C23C014-04
 EP 1113991 A2 20010711 (200140) EN C01F011-02

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
 RO SE SI

ADT WO 2000017413 A2 WO 1999-US21685 19990917; AU 9962552 A AU 1999-62552
 19990917; EP 1113991 A2 EP 1999-949737 19990917, WO 1999-US21685 19990917

FDT AU 9962552 A Based on WO 200017413; EP 1113991 A2 Based on WO 200017413

PRAI US 1998-156827 19980918

IC ICM C01F011-02; C23C014-04
 ICS C01F017-00; C04B035-01; C04B035-622; C07B061-00; C23C016-04

AB WO 200017413 A UPAB: 20000617

NOVELTY - The array is produced by mixing two or more dissolved organic or
 inorganic components together in nine or more different mixtures,
 dispensing them into different regions on a substrate, then heating the
 substrate.

DETAILED DESCRIPTION - The components are selected from oxides,
 alkoxides, aryloxides, allyloxides, diketonates, oxoalkoxides,
 oxoaryloxides, oxodiketonates, phosphates, phosphines, sulfates, nitrites,
 nitrates, hydroxides, amines, amides, imines, carbonates, carbonyls,
 halides, oxyhalides, metals and carboxylates.

USE - For screening each formed material (intermetallic materials,
 metal alloys, ceramics and composite materials) for a useful electrical,
 thermal, mechanical, morphological, optical, magnetic and chemical
 property (all claimed). Catalytic materials can be prepared using parallel
 synthesis methods and directly evaluated for catalytic performance. The
 catalysts developed can be used in the gas phase oxidative dehydrogenation
 of light paraffins obtained from FCC processes, and the selective
 oxidation of natural gas components.

ADVANTAGE - At least 1000 different materials can be present in the
 array (claimed). The components used have good solubility leading to a
 high level of mixing, high purity products and a reduction in processing
 temperature.

DESCRIPTION OF DRAWING(S) - The drawing shows a flow chart of the
 method used to form the array of materials.

Dwg.1/1

FS CPI

FA AB; GI; DCN

MC CPI: E05-A; E05-B; E05-D; E05-F; E05-G; E05-J; E05-L; E05-M; E05-N; E05-P;
 E05-Q; E10-A05; E10-A09A; E10-A11B2; E10-A20B; E10-B04; E10-C04;
 E10-E02U; E10-E04L; E10-E04M2; E10-F02; E10-J02C3; E31-D04; E31-K;
 E33; E34; E35; H04-E; H04-F02E; J04-E04; L02-G; N06; N06-E

L58 ANSWER 5 OF 6 WPIX (C) 2003 THOMSON DERWENT

AN 1987-081061.[12] WPIX

DNN N1987-061083 DNC C1987-033624

TI X-ray detector with sintered scintillator - consisting of rare earth
 oxysulphide.

DC E37 K08 L03 S03

IN FUJII, H; MAIO, K; SUZUKI, A; TSUKUDA, Y; YAMADA, H; YAMAMOTO, H; YOSHIDA,
 M

PA (HITA) HITACHI LTD; (HITR) HITACHI MEDICAL CORP; (HITK) HITACHI METALS LTD

CYC 3

PI DE 3629180 A 19870319 (198712)*
 JP 62052481 A 19870307 (198715)
 JP 63018286 A 19880126 (198809)
 US 4733088 A 19880322 (198815) 7p
 JP 63113388 A 19880518 (198826)
 DE 3629180 C 19890420 (198916)
 JP 05016756 B 19930305 (199312) 6p G01T001-20

ADT DE 3629180 A DE 1986-3629180 19860820; JP 62052481 A JP 1985-191951
 19850902; JP 63018286 A JP 1986-161847 19860711; US 4733088 A US
 1986-895455 19860811; JP 63113388 A JP 1986-305254 19861223; DE 3629180 C
 DE 1986-3629180 19860828; JP 05016756 B JP 1986-305254 19861223
 FDT JP 05016756 B Based on JP 63113388
 PRAI JP 1985-191951 19850902; JP 1986-98330 19860430; JP 1986-161847
 19860711
 IC ICM G01T001-20
 ICS C04B035-00; C09K011-84; G01S005-26
 AB DE 3629180 A UPAB: 19930922
 The detector contains a scintillator layer 2 which converts the incident
 X-rays into visible light and a photodetector 3 to convert this into an
 electrical impulse. The scintillator is formed by sintering during
 isostatic pressing of rare-earth oxysulphide powder containing a
 densification agent.
 The general formula for the oxysulphide is pref.
 $(Ln(1-x-y)MxCey)2O2S:X$
 in which Ln is at least one of Gd, La and Y, M is at least one of Eu,
 Pr and Tb, pref. Pr, X is at least one of F and Cl. x is 3×10^{-6} to
 0.2 , y varies from 10^{-6} to 5×10^{-3} . The quantity of X used
 is from 5 to 1000 ppm by wt.. To the above powder is added 0.001 to 10
 wt.% of the densification cpd..
 Densification cpds. used pref. include $M2GeF6$ in which M is Li, Na, K
 or NH_4 , Na_3AlF_6 , $Li_2SiF_6 \cdot 2H_2O$ or LiF.
 USE/ADVANTAGE - The scintillator light-efficiency is increased, it is
 easy to mfr. and has a high density, allowing a thinner layer to be used
 or for the layer 8 of Pb-glass to be omitted. The detector is used in
 medical X-ray scanners.
 2/3
 FS CPI EPI
 FA AB; DCN
 MC CPI: E34-E; K08-A; L03-H04C
 EPI: S03-G02B1

L58 ANSWER 6 OF 6 WPIX (C) 2003 THOMSON DERWENT
 AN 1981-55826D [31] WPIX
 TI Efficient fluorescent lamp - prepd. by coating internal surface with
 fluorescent mixt. comprising green, blue and red fluorescent substances.
 DC E33 L03
 PA (HITA) HITACHI LTD
 CYC 1
 PI JP 56070085 A 19810611 (198131)* 5p
 JP 57036308 B 19820803 (198234)
 PRAI JP 1979-144404 19791109
 IC C09K011-47; H01J061-44
 AB JP 56070085 A UPAB: 19930915
 Fluorescent lamp is prepd. by coating the internal surface with a
 fluorescent mixt. comprising a green fluorescent substance of
 $(Gd_{1-a-b-c}Y_aCe_bTb_c)2O_3 \cdot 3B_2O_3$ where a is 0.05-0.4, b is 0.05-0.6, c is
 0.05-0.5 and (a+b+c) is less than 1 (25-55 wt.%); a red fluorescent
 substance having main luminance at 600-640 nm and selected from Yt_2O_3
 (Sic), Gd_2O_3 , vanadates and phosphorus vanadates each activated by Eu^{3+}
 (15-65 wt.%); a blue fluorescent substance having main luminance at
 420-470 nm and selected from halophosphates, phosphates, aluminates and
 borophosphates each activated by Eu^{2+} and pyrophosphates and tungstenates
 each activated by Sn^{2+} (5-45 wt.%); and opt. mixed with at least one
 fluorescent substance selected from halophosphates activated by Sb and
 halophosphates activated by Sb and Mn (1-100 wt.% per 100 % of the green,
 red and blue fluorescent substances).
 The fluorescent lamps have high efficiency and high colour rendering
 (Ra of 82-83).

L64 ANSWER 1 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 2001-079318 [09] WPIX
 DNC C2001-022641
 TI Ammoxidation catalyst useful in the production of e.g. (meth)acrylonitrile comprises an oxide supported on silica.
 DC A41 E16
 IN KANETA, M; KOMADA, S
 PA (ASAH) ASahi KASEI KOGYO KK
 CYC 1
 PI US 6143690 A 20001107 (200109)* 16p
 ADT US 6143690 A US 1999-304956 19990505
 PRAI JP 1998-139221 19980507
 AB US 6143690 A UPAB: 20010220

NOVELTY - An ammoxidation catalyst comprises an oxide supported on silica. The oxide comprises molybdenum, vanadium, niobium, and tellurium or antimony. The alkali metal content is extremely small or zero.

DETAILED DESCRIPTION - Ammoxidation catalyst for use in producing (meth)acrylonitrile from propane or isobutane in the gaseous phase comprises a compound oxide supported on silica. The catalyst has an alkali metal content of 0.01 or less in terms of the atomic ratio of an alkali metal, relative to Mo. The catalyst is produced by a method which comprises: a) drying an aqueous mixture of a silica sol and compounds of Mo, V, Nb, and Te or Sb and optionally at least one of Y, Dy, Er, Ce, Nd, Sm, La, Pr, Eu, Gd, Tb, Ho, Th, Lu, Sc, W, Cr, Ta, Ti, Zr, Hf, Mn, Re, Fe, Ru, Co, Rh, Ni, Pd, Pt, Cu, Ag, Zn, B, Al, Ga, In, Ge, Sn, Pb, P, Bi or alkaline earth metals to obtain a catalyst precursor; and b) calcining the precursor in an atmosphere of inert gas free of molecular oxygen. The silica sol has an alkali metal content of 0.007 or less in terms of the atomic ratio of an alkali metal, relative to silicon.

An INDEPENDENT CLAIM is also included for a process for producing (meth)acrylonitrile which comprises reacting propane or isobutane with ammonia and molecular oxygen in the gaseous phase in the presence of an ammoxidation catalyst.

USE - To produce (meth)acrylonitrile from propane or isobutane (claimed).

ADVANTAGE - Unlike the prior art, the catalyst can be easily produced and gives high yield of acrylonitrile or methacrylonitrile.
 Dwg.0/0

L64 ANSWER 2 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 2000-640924 [62] WPIX
 DNC C2000-193085
 TI Unsaturated nitrile production comprises vapor phase catalytic ammoxidation of propane or isobutane in presence of catalyst comprising molybdenum-niobium-based complex oxide supported on silica.
 DC A41 E16 J04
 PA (ASAH) ASahi KASEI KOGYO KK
 CYC 1
 PI JP 2000202293 A 20000725 (200062)* 10p
 ADT JP 2000202293 A JP 1999-11043 19990119
 PRAI JP 1999-11043 19990119
 AB JP2000202293 A UPAB: 20001130

NOVELTY - Propane or isobutane is subjected to vapor phase catalytic ammoxidation in the presence of catalyst, comprising 20-60 weight % of molybdenum-niobium-based complex oxide supported on silica, to produce unsaturated nitrile

DETAILED DESCRIPTION - The catalyst component is of formula MolVpXqNbrYsZtOn (I).

X = Te and/or Sb;

Y = Ce and/or La;

Z = at least one selected from Ti, W, Cr, Ta, Zr, Y, Yb, Sn, Bi, Hf, Mn, Re, Fe, Ru, Co, Rh, Ni, Pd, Pt, Ag, Zn, B, Al, Ga, In, Ge, Pb, P, Pr, Nd, Sm, Gd, Pm, Eu, Tb, Dy, Ho, Er, Tm, Lu, and alkaline earth metal;

p, q, r, s, t, n = atomic ratio per Mo;

p = greater than or equal to 0.1 and less than or equal to 0.6;

q = greater than or equal to 0.01 and less than or equal to 0.6;

r = greater than or equal to 0.01 and less than or equal to 0.6;

s = greater than or equal to 0.001 and less than or equal to 0.3;

t = greater than or equal to 0 and less than or equal to 1;

n = atomic ratio of O determined by oxidation number of elemental constituent metal.

USE - The catalyst is used for producing the unsaturated nitrile.

ADVANTAGE - The catalyst is available without complicate catalyst production processes, and has high strength, and high yield in producing the unsaturated nitrile. The catalyst also suppresses the decomposition of ammonia to nitrogen and provides the ammonia with high economic efficiency.

Dwg.0/0

L64 ANSWER 3 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 2000-508113 [46] WPIX

DNC C2000-152525

TI Catalyst for preparing unsaturated nitrile by ammoxidation of propane or isobutane comprising composite metal oxide containing especially zirconium supported on silica.

DC A41 E16

PA (ASAHI) ASAHI KASEI KOGYO KK

CYC 1

PI JP 2000178242 A 20000627 (200046)* 8p

ADT JP 2000178242 A JP 1998-354398 19981214

PRAI JP 1998-354398 19981214

AB JP2000178242 A UPAB: 20000921

NOVELTY - A catalyst for preparing unsaturated nitriles by vapor phase ammoxidation of propane or isobutane comprises a composite metal oxide (I) containing Mo, V, Nb, Te and/or Sb and Zr supported on silica (20-60 wt.%).

DETAILED DESCRIPTION - (I) has following formula (1):

MolVp Xq Nbr Zrs Zt On (1)

X = Te and/or Sb;

Z = Ti, W, Cr, Ta, Sn, Y, Yb, La, Ce, Bi, Hf, Mn, Re, Fe, Ru, Co, Rh, Ni, Pd, Pt, Ag, Zn, B, Al, Ga, In, Ge, Pb, P, Pr, Nd, Sm, Gd, Pm, Eu, Tb, Dy, Ho, Er, Tm, Lu and alkaline earth metal; p, q, r, s, t, n = atom ratio per one atom of Mo and satisfy the following equations: 0.1 less than or equals p less than or equals 0.6, 0.01 less than or equals q less than or equals 0.6, 0.01 less than or equals r less than or equals 0.6, 0.001 less than or equals s less than or equals 0.3, 0 less than or equals t less than or equals 1 ;

n = atom ratio of O determined by oxidation number of each metal elements

An INDEPENDENT CLAIM is also included for a preparation of unsaturated nitriles.

USE - For preparing unsaturated nitriles by ammoxidation of propane or isobutane.

ADVANTAGE - The catalyst is prepared without a complex process, has a strong strength and gives unsaturated nitriles with a high yield.

Dwg.0/0

L64 ANSWER 4 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 2000-485883 [43] WPIX

DNN N2000-361286

TI Fluorescent body powder for displays and its paste that has excellent

coatability, forms uniform and dense fluorescent body layers, and can manufacture plasma displays with high performance.

DC A89 E19 G02 L03 V05
PA (TORA) TORAY IND INC
CYC 1

PI JP 2000178552 A 20000627 (200043)* 16p

ADT JP 2000178552 A JP 1998-354224 19981214

PRAI JP 1998-354224 19981214

AB JP2000178552 A UPAB: 20010116

NOVELTY - A novel fluorescent body powder for displays has at least two peaks in its particle size distribution curve.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for fluorescent body paste that contains the fluorescent body powder and optionally a photosensitive organic compound (A).

USE - The composition is suitable particularly for forming fluorescent body layers for plasma display panels.

ADVANTAGE - (P2) has excellent coatability and so can form uniform and dense fluorescent body layers. Therefore, manufactured displays can realize high brightness and high quality display.

Dwg.0/12

L64 ANSWER 5 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 2000-056397 [05] WPIX

DNC C2000-015110

TI Light accumulating fluorescent body for night-time display - consists of alkaline earth metal aluminate as host crystal and at least one kind of rare earth element.

DC A18 A23 A60 A89 E37

PA (NIPC) NIPPON CHEM IND CO LTD

CYC 1

PI JP 11209753 A 19990803 (200005)* 5p

ADT JP 11209753 A JP 1998-30614 19980128

PRAI JP 1998-30614 19980128

AB JP 11209753 A UPAB: 20000128

A light accumulating fluorescent body (P1) consists of alkaline earth metal aluminate (A) as a host crystal and at least one kind of rare earth element (B) contained in (A) as an activating agent and contains particles having a Stokes diameter at most 10 micron corresponding to at least 40 wt. % and particles having Stokes diameter at least 50 micron corresponding to at most 10 wt. %.

Also claimed is a light accumulating resin composition (P2) containing (P1) and synthetic resin (C).

USE - (P1) is suitable for mfg. (P2). (P2) is suitable for manufacturing indoor and outdoor displays useful at night or dark places.

ADVANTAGE - (P1) does not cause darkening in the colour even if it were kneaded with a synthetic resin in a kneader or extruder. (P1) and (P2) are excellent in light accumulating properties, afterglow, and resistances to light and weathering.

Dwg.0/0

L64 ANSWER 6 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1999-400209 [34] WPIX

DNN N1999-299516 DNC C1999-118279

TI Acrylic light storing resin molding.

DC A14 A89 E33 Q41

PA (SUMO) SUMITOMO CHEM CO LTD

CYC 1

PI JP 11158205 A 19990615 (199934)* 6p

ADT JP 11158205 A JP 1997-329005 19971128

PRAI JP 1997-329005 19971128

AB JP 11158205 A UPAB: 19990825

NOVELTY - An acrylic light-storing resin molding comprises forming a syrup containing a light-storing pigment (0.01-50 pts.wt.) and a polymerization initiator in a methyl methacrylate monomer solution having a viscosity ratio (eta 1/ eta 2) of 1.3 or more. The syrup is injected and cured in a mold. eta 1: Viscosity at 6 min-1, and eta 2: Viscosity at 60 min-1 measured by JIS K-7117.

ADVANTAGE - The light-storing composition is easily prepared. The pigment is well dispersed.

Dwg.0/0

L64 ANSWER 7 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1999-076305 [07] WPIX

DNN N1999-056205 DNC C1999-022933

TI Composite tin oxide coating material for negative electrode active material in non-aqueous electrolyte secondary battery - has coating layer comprising elements, compounds or solid solutions chosen from specific group of elements in periodic table on the surface of tin oxide group material.

DC E32 L03 X16

PA (TOKU) TOKUYAMA SODA KK

CYC 1

PI JP 10316426 A 19981202 (199907)* 11p

ADT JP 10316426 A JP 1997-121311 19970512

PRAI JP 1997-121311 19970512

AB JP 10316426 A UPAB: 19990217

NOVELTY - The coating layer comprises of elements, compounds or solid solutions chosen from alkaline earth elements, rare earth and transition elements, group IIIA, group IVA, group VA elements of periodic tables.

USE - For negative electrode active material of non-aqueous electrolyte secondary battery (claimed).

ADVANTAGE - The secondary battery employing composite tin oxide coating as negative electrode material has high charging and discharging capacitance with small irreversible capacitance. The energy density of the battery is raised.

Dwg.0/0

L64 ANSWER 8 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1999-076304 [07] WPIX

DNN N1999-056204 DNC C1999-022932

TI Composite tin oxide powder manufacture for negative electrode active material in non-aqueous electrolyte secondary battery - involves dissolving tin metal or compound in an organic solvent forming a precursor solution which is gelled, baked, fused to form bulb-shaped material and cooled subsequently.

DC E32 L03 P53 X16

PA (TOKU) TOKUYAMA SODA KK

CYC 1

PI JP 10316425 A 19981202 (199907)* 16p

ADT JP 10316425 A JP 1997-121310 19970512

PRAI JP 1997-121310 19970512

AB JP 10316425 A UPAB: 19990217

NOVELTY - The method involves dissolving metal tin or tin compound along with a compound chosen from rare earth element, transition group, IIIA, IVA, VA group elements or chalcogenates in an organic solvent to form a precursor solution. A gel is generated from the precursor solution which is baked to form the composite tin oxide powder. The powder is fused to form a bulb shaped fusion body and subsequently cooled.

USE - As negative electrode active material for non-aqueous electrolyte secondary battery.

ADVANTAGE - The spherical composite tin oxide powder of fixed

composition and improved tap density is obtained.
Charging/discharging characteristics of battery is improved.
Dwg.0/0

L64 ANSWER 9 OF 31 WPIX (C) 2003 THOMSON DERWENT
AN 1999-000842 [01] WPIX
DNC C1999-000283
TI Bio-catalyst additive used in hydrocarbon fuels and coal slurry fuels -
comprises complex salts of acetyl acetone soluble in oil and water, and
oil-soluble urea complex..
DC E19 H06 H09 J04
PA (METZ-I) METZ A
CYC 1
PI DE 29809535 U1 19981119 (199901)* 26p
ADT DE 29809535 U1 DE 1998-29809535 19980505
PRAI DE 1998-29809535 19980505
AB DE 29809535 U UPAB: 19990107
Biocatalyst additive comprises the following complex salts of
acetylacetone soluble in light, medium and heavy oils and in water, and
N,N'-bis(trimethylsilyl)urea soluble in oils: (1) $\text{Li}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{LiCo}(\text{C}_5\text{H}_7\text{O}_2)_3$,
 $\text{NaC}_5\text{H}_7\text{O}_2$, $\text{NaC}_5\text{H}_7\text{O}_2 + 2\text{H}_2\text{O}$, $\text{NaCo}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{KC}_5\text{H}_7\text{O}_2$, $\text{K}_2\text{H}(\text{NbO}(\text{C}_5\text{H}_6\text{O}_2)_3) + 1.5$
 $\text{C}_5\text{H}_8\text{O}_2$, $\text{RbC}_5\text{H}_7\text{O}_2$, $\text{CsC}_5\text{H}_7\text{O}_2$; (2) $\text{Mg}(\text{C}_5\text{H}_7\text{O}_2)_2$, $\text{Ca}(\text{C}_5\text{H}_7\text{O}_2)_2$, $\text{Sr}(\text{C}_5\text{H}_7\text{O}_2)$; (3)
 $(\text{C}_5\text{H}_7\text{O}_2)\text{B}_2$, $\text{Al}(\text{C}_5\text{H}_7\text{O}_2)_3$; (4) $\text{Si}((\text{C}_5\text{H}_7\text{O}_2)_3)\text{I} + \text{HI}$, N,N'-bis-
(trimethylsilyl)urea, $\text{Cr}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Sn}(\text{C}_5\text{H}_7\text{O}_2)_2$; (5)
Bi-acetylacetonate; (6) $\text{Se-Cl}_{10}\text{H}_{12}\text{O}_4$, Te-acetylacetonate; (7) $\text{Cu}(\text{C}_5\text{H}_7\text{O}_2)_2$;
(8) $\text{Zn}(\text{C}_5\text{H}_7\text{O}_2)_2$; (9) $\text{Sc}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Y}(\text{C}_5\text{H}_7\text{O}_2)_3 + \text{NH}_3$, $\text{Y}(\text{C}_5\text{H}_7\text{O}_2)_3$,
 $\text{La}(\text{C}_5\text{H}_7\text{O}_2)_3 + \text{NH}_3$, $\text{La}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Ce}(\text{C}_5\text{H}_7\text{O}_2)_4$, $\text{Ce}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Ce}(\text{C}_5\text{H}_7\text{O}_2)_3 +$
 $3\text{H}_2\text{O}$, $\text{Pr}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Pr}(\text{C}_5\text{H}_7\text{O}_2)_3 + 2.5 \text{H}_2\text{O}$, $\text{Nd}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Sm}(\text{C}_5\text{H}_7\text{O}_2)_3$,
 $\text{Eu}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Gd}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Dy}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Ho}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Er}(\text{C}_5\text{H}_7\text{O}_2)_3$,
 $\text{Tm}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Yb}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Lu}(\text{C}_5\text{H}_7\text{O}_2)_3$; (10) $(\text{Ti}(\text{C}_5\text{H}_7\text{O}_2)_3)_2 \text{Ti}_{14}$,
 $\text{Zr}(\text{C}_5\text{H}_7\text{O}_2)_4$, $\text{Zr}(\text{C}_5\text{H}_7\text{O}_2)_4 + 10 \text{H}_2\text{O}$, $\text{Hf}(\text{C}_5\text{H}_7\text{O}_2)_4$, $\text{Hf}(\text{C}_5\text{H}_7\text{O}_2)_4$, $\text{Hf}(\text{C}_5\text{H}_7\text{O}_2)_4 +$
 $10 \text{H}_2\text{O}$; (11) $\text{V}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{VO}(\text{C}_5\text{H}_7\text{O}_2)_2$, $\text{K}_2\text{H}(\text{NbO}(\text{C}_5\text{H}_6\text{O}_2)_3) + 1.5 \text{C}_5\text{H}_8\text{O}_2$,
 $\text{Nb}_2(\text{C}_5\text{H}_7\text{O}_2)(\text{OC}_2\text{H}_5)_2$, $\text{Ta}_2(\text{C}_5\text{H}_7\text{O}_2)(\text{OC}_2\text{H}_5)_2$, $\text{Cr}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Mo}(\text{OH})_3$
 $(\text{C}_5\text{H}_7\text{O}_2)_2 + 3 \text{H}_2\text{O}$, W-acetylacetonate; (12) $\text{VO}(\text{C}_5\text{H}_7\text{O}_2)_2$, $\text{K}_2\text{H}(\text{NbO}(\text{C}_5\text{H}_6\text{O}_2)_3)$
 $+ 1.5 \text{C}_5\text{H}_8\text{O}_2$, $\text{Nb}_2(\text{C}_5\text{H}_7\text{O}_2)(\text{OC}_2\text{H}_5)_2$, $\text{Ta}_2(\text{C}_5\text{H}_7\text{O}_2)(\text{OC}_2\text{H}_5)_2$; (13) $\text{Cr}(\text{C}_5\text{H}_7\text{O}_2)_3$,
 $\text{Mo}(\text{OH})_3(\text{C}_5\text{H}_7\text{O}_2)_2 + 3 \text{H}_2\text{O}$, W-acetylacetonate; (14) $\text{Mn}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Mn}(\text{C}_5\text{H}_7\text{O}_2)_2$
 $+ 2 \text{NH}_3$, $\text{Mn}(\text{C}_5\text{H}_7\text{O}_2)_2$; (15) tris(acetylacetonato)-Fe (III), $\text{Co}(\text{C}_5\text{H}_7\text{O}_2)_2$,
 $\text{Co}(\text{C}_5\text{H}_7\text{O}_2)_3$, $\text{Ni}(\text{C}_5\text{H}_7\text{O}_2)_2$.
USE - In hydrocarbon fuels and coal slurry fuels.
ADVANTAGE - The additive is bio-degradable.
Dwg.0/0

L64 ANSWER 10 OF 31 WPIX (C) 2003 THOMSON DERWENT
AN 1998-578932 [49] WPIX
DNN N1998-451673 DNC C1998-173395
TI Fluorescent material dispersing composition sensitive to radiation used
for plasma display panels - comprises fluorescent material, organic
polymer binder, photocrosslinking monomer and/or oligomer, and photo
radical generating compound.
DC A11 A85 E19 L03 V05
IN KUMANO, A; MASUKO, H; TAKAHASHI, J; UDAGAWA, T
PA (JAPS) NIPPON GOSEI GOMU KK; (JAPS) JSR CORP
CYC 3
PI JP 10261366 A 19980929 (199849)* 9p
KR 98080296 A 19981125 (200004)
US 6051368 A 20000418 (200026)
ADT JP 10261366 A JP 1997-82402 19970317; KR 98080296 A KR 1998-8720 19980316;
US 6051368 A US 1998-37066 19980309
PRAI JP 1997-82402 19970317
AB JP 10261366 A UPAB: 19981223
A radiation ray sensitive compsn. dispersing fluorescent material used for

plasma display panels comprises (a) fluorescent material, (b) organic polymer binder, (c) photo crosslinking monomer and/or oligomer, and (f) photo radical generating chemical. (b) is a combination of an alkali-soluble resin and a cellulose ester.

USE - For forming uniform fluorescent faces on substrates or partition walls of plasma display panels.

ADVANTAGE - The new compsn. provides fine patterns of fluorescent faces with an alkaline liq. developer.

Dwg.0/0

L64 ANSWER 11 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1998-343564 [30] WPIX

DNN N1998-269130 DNC C1998-106125

TI Fluorescent body paste - comprises powder of an inorganic fluorescent body and an organic component as indispensable components.

DC E37 G06 L03 V05

PA (TORA) TORAY IND INC

CYC 1

PI JP 10130638 A 19980519 (199830)* 9p

ADT JP 10130638 A JP 1996-291607 19961101

PRAI JP 1996-291607 19961101

AB JP 10130638 A UPAB: 19980805

A fluorescent body paste comprises powder of an inorganic fluorescent body and an organic component as indispensable components where the fluorescent body paste has a viscosity of 1-50 poise.

ADVANTAGE - The fluorescent body paste can form a sufficient thickness of layer on the bottom and side wall in a discharging cell thereby high brightness plasma display panel can be readily made.

Dwg.0/0

L64 ANSWER 12 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1997-509113 [47] WPIX

DNC C1997-162485

TI Surface treatment-applied phosphor - by sticking cationic material layer to phosphor particles, applying alkoxy silane and/or hydrolysed material of alkoxy silane, and then forming silicon-contg. coating on surface of particles.

DC E11 L03

PA (KASO) KASEI OPTONIX LTD; (MITU) MITSUBISHI CHEM CORP

CYC 1

PI JP 09241630 A 19970916 (199747)* 9p

ADT JP 09241630 A JP 1996-45922 19960304

PRAI JP 1996-45922 19960304

AB JP 09241630 A UPAB: 19971125

The prodn. of a surface treatment-applied phosphor comprises: (a) previously sticking a cationic material layer to phosphor particles; (b) applying surface treatment using alkoxy silane and/or a hydrolysed material of alkoxy silane to the layer; (c) forming a silicon-contg. coating on the surfaces of the phosphor particles.

Also claimed is that the surface treatment-applied phosphor has the cationic material layer, and the silicon-contg. coating on the surfaces of the particles.

USE - The method produces the surface treatment-applied phosphor suitably used in a colour displaying tube having a layer of phosphor particles generating light by electron beams.

ADVANTAGE - The phosphor yields a cathode ray tube having superior phosphor contamination prevention and good colour purity for a green phosphor, red phosphor as well as blue phosphor without adsorbing and mixing a Cu²⁺ ion derived from a Cu-based foreign matter to and with the phosphor.

Dwg.0/0

L64 ANSWER 13 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1996-439233 [44] WPIX

DNN N1996-370290 DNC C1996-137896

TI Composite super microparticles prodn. for homogeneous compsn. and high yield - by melting raw material e.g sodium boride by heating in oxygen and nitrogen gas mixt., then reacting vapour with oxygen.

DC E37 J04 L02 M22 P53

PA (YOSI) YOSHIDA KOGYO KK

CYC 1

PI JP 08217420 A 19960827 (199644)* 10p

ADT JP 08217420 A JP 1995-50321 19950216

PRAI JP 1995-50321 19950216

AB JP 08217420 A UPAB: 19961104

Raw material (A) comprises element (B) whose vapour pressures differs greatly is melted by heating in a gas mixt. of O₂ and N₂, then vapour is made to react with O₂ to give composite microparticles made of the elements or oxides. (A) is of formula $F = (LM)a(M)b$, (LM) = Li, Na, Mg, Ca, Zn, Pb, Sm, Eu, Tm, and/or Yb and Tm; and (M) = B, Al, Si, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Ga, Y, Zr, Nb, Mo, Ru, Rh, Pd, Ag, In, Sn, La, Hf, Ta, W, Re, Os, Ir, Pt, Au, Ce, Pr, Nd, Gd, Tb, Dy, Ho, Er and/or Lu; and (a) and (b) = at.% i.e. (a) = 1.90% and (b) = 10.99%.

The prodn. e.g. heating temp. vapour press and atmospheric gas compsn. are also claimed.

USE - Used for producing composite super microparticles.

ADVANTAGE - Method is able to produce microparticles with homogeneous compsn. and high yield.

Dwg.1/8

L64 ANSWER 14 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1996-029756 [03] WPIX

CR 1995-092105 [13]

DNC C1996-010168

TI Catalytic removal of nitrous oxide from gas streams - uses catalyst derived from anionic clay material with a small amount of activator metal.

DC A41 E17 E36 J01

IN ARMOR, J N; BRAYMER, T A; FARRIS, T S; LI, Y

PA (ENGH) ENGELHARD CORP

CYC 1

PI US 5472677 A 19951205 (199603)* 17p

ADT US 5472677 A CIP of US 1993-113023 19930827, US 1995-394129 19950204

FDT US 5472677 A CIP of US 5407652

PRAI US 1995-394129 19950204; US 1993-113023 19930827

AB US 5472677 A UPAB: 19960222

In the catalytic removal of N₂O from a gaseous mixt., where a catalyst precursor comprising an anionic clay material of formula $MmNn(OH)(2m+2n).AabH_2O$, where M = a divalent metal cation; N = a trivalent metal cation; A = a mono-, di- or trivalent anion which decomposes on heating to form a volatile gas; m, n are such that $m/n = 0.5-6$; a is such that when A = a monovalent anion $a = n$, when A = a divalent anion $a = 1/2n$ and when A = a trivalent anion $a = 1/3n$; and b = 1-10, is heated to a temp. sufficient to cause A to decompose to form the volatile gas, to form a catalyst which converts the N₂O to N₂ and O₂, a min. of ca. 1 wt.% of an activator metal, separate from M and selected from Na, K, Li and Mg and mixts. of these, is provided to the catalyst precursor.

USE - Nitrous oxide is a by-prod. in various industrial processes including the mfr. of monomers (esp. adipic acid) for producing 6,6- and 6,12 nylon. It is a major stratospheric source of NO, is believed to be involved in the destruction of the ozone layer and is recognised as a greenhouse gas.

ADVANTAGE - The process is highly efficient. The catalysts provide

superior N2O decomposition. activity and operate at lower temps. than processes using other catalysts. Addn. of the activator metal can greatly improve the ability of the catalyst to decompose N2O in gas streams contg. water. The catalysts are also suitable for water-free gas streams. The catalysts are effective even when appreciable amts. of hydrocarbons, NOx and oxygen are present. Extended catalyst life is obtd. with this system. Under suitable temp. conditions 100% conversion to N2 and O2 can be achieved.

Dwg.0/6

L64 ANSWER 15 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1995-142085 [19] WPIX

DNN N1995-111745 DNC C1995-065593

TI Magnetic recording media - with iron nitride gp. magnetic powder of specific needle shape ratio, providing improved play-back output of low frequency signal.

DC A85 E31 L03 T03 V02

PA (VICO) VICTOR CO OF JAPAN

CYC 1

PI JP 07065350 A 19950310 (199519)* 6p

ADT JP 07065350 A JP 1993-214426 19930830

PRAI JP 1993-214426 19930830

AB JP 07065350 A UPAB: 19950524

The iron-nitride group magnetic powder has needle shape ratio of 5-15, length of longer axis of 0.05-0.1 micrometer, saturated magnetic amount is 160-210 emu/g. The longitudinal coercive force is 1700-2000 Oe, saturated magnetic flux is 4000-6000 G, and the ratio of thickness of magnetic layer (Tm) and minimum recording wavelength (Ls), Tm/Ls is 0.5-0.8, where Ls is 0.3-0.6 micrometer.

The mixt. of Fe-N group magnetic powder, inorganic cpds. (alpha-Al2O3, C), organic cpds. (polyvinyl butyral, polyurethane resin, palmitic acid, isocyanate, cyclohexane and methylethylketone) were applicated onto PET film, and calender treated, slitting treated to obtain this magnetic recording film.

ADVANTAGE - The play-back output of low frequency signal is increased and overwriting characteristic is improved.

Dwg.1/1

L64 ANSWER 16 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1995-092105 [13] WPIX

CR 1996-029756 [03]

DNC C1995-041674

TI Removing nitrous oxide from gas mixts. - comprises reacting gas mixt. in presence of catalyst under conditions sufficient to convert nitrous oxide(s) to gaseous nitrogen and oxygen.

DC E36 J04

IN ARMOR, J N; BRAYMER, T A; KANNAN, S; LI, Y; SWAMY, C S

PA (AIRP) AIR PROD & CHEM INC; (ENGH) ENGELHARD CORP

CYC 12

PI EP 640379 A1 19950301 (199513)* EN 19p

R: BE DE FR GB IT NL

US 5407652 A 19950418 (199521) 12p

CA 2130589 A 19950228 (199522)

BR 9403333 A 19950620 (199531)

JP 07163870 A 19950627 (199534) 12p

JP 2637049 B2 19970806 (199736) 11p

EP 640379 B1 19980408 (199818) EN 19p

R: BE DE FR GB IT NL

DE 69409450 E 19980514 (199825)

SG 48048 A1 19980417 (199827)

KR 142375 B1 19980601 (200015)

CA 2130589 C 19991207 (200017) EN
 ADT EP 640379 A1 EP 1994-113401 19940826; US 5407652 A US 1993-113023
 19930827; CA 2130589 A CA 1994-2130589 19940822; BR 9403333 A BR 1994-3333
 19940825; JP 07163870 A JP 1994-228642 19940829; JP 2637049 B2 JP
 1994-228642 19940829; EP 640379 B1 EP 1994-113401 19940826; DE 69409450 E
 DE 1994-609450 19940826; EP 1994-113401 19940826; SG 48048 A1 SG 1996-6648
 19940826; KR 142375 B1 KR 1994-21016 19940825; CA 2130589 C CA
 1994-2130589 19940822
 FDT JP 2637049 B2 Previous Publ. JP 07163870; DE 69409450 E Based on EP 640379
 PRAI US 1993-113023 19930827
 AB EP 640379 A UPAB: 20000405
 N2O is removed from a gas mixt. by conversion to N2 and O2 using a
 decomposition catalyst obtd. by heat treating an anionic clay material of
 formula (I).

$MmNn(OH)(2m+2n)Aa.bH_2O$ (I)

In (I): M is a divalent and N is a trivalent metal cation; A is a
 mono, di or trivalent anion decomposable to a volatile gas; m/n is 0.5-6;
 a is an integer such that when A is divalent then a is 1/2n and if A is
 trivalent a is 1/3n; and b is an integer of 1-10. The anionic clay
 material is heated to the temp. sufficient to cause A to decompose to form
 the volatile gas.

Also claimed is a process as above, using an anionic clay mineral of
 formula (II).

$MmAl_3+n(OH)(2m+2n)Aa.bH_2O$ (II)

In (II): M is Co²⁺, Cu²⁺, Ni²⁺, Pd²⁺ or Mg²⁺; A is a mono-, di- or
 tri-valent anion which decomposes when heated to a temp. sufficient to
 form a volatile gas; and m/n, a and b are as above.

USE - The N2O source is exhaust gas from monomer prodn. used in mfg.
 nylons where exhaust is cleaned before venting to atmos. Hydrocarbons and
 other nitrogen oxides can be present with O2, H2O etc.

ADVANTAGE - The catalyst has enhanced activity and life.

Dwg.0/4

L64 ANSWER 17 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1993-368403 [46] WPIX
 DNC C1993-163452
 TI Treatment and prevention of flavivirus injection - by admin. of
 hetero-poly-tungstate derivs., inhibiting replication of e.g. dengue and
 yellow fever viruses.
 DC B06
 IN BARTHOLOMEUSZ, A I; HOLAN, G; MARCUCCIO, S M; WEIGOLD, H; WRIGHT, P J;
 BARTHOLOMEUSZ, A
 PA (CSIR) COMMONWEALTH SCI & IND RES ORG
 CYC 44
 PI WO 9321934 A1 19931111 (199346)* EN 29p
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
 W: AU BB BG BR CA CZ FI HU JP KP KR KZ LK MG MN MW NO NZ PL RO RU SD
 SK UA US VN
 AU 9342555 A 19931129 (199411)
 CN 1082892 A 19940302 (199524)
 JP 07506352 W 19950713 (199536) 9p
 HU 71677 T 19960129 (199738)
 ADT WO 9321934 A1 WO 1993-AU192 19930430; AU 9342555 A AU 1993-42555 19930430;
 CN 1082892 A CN 1993-106560 19930501; JP 07506352 W JP 1993-518767
 19930430, WO 1993-AU192 19930430; HU 71677 T WO 1993-AU192 19930430, HU
 1994-3128 19930430
 FDT AU 9342555 A Based on WO 9321934; JP 07506352 W Based on WO 9321934; HU
 71677 T Based on WO 9321934
 PRAI AU 1992-2213 19920501
 AB WO 9321934 A UPAB: 19950927
 Flavivirus infection is treated or prevented by admin. of at least one of

the heteropolytungstates of formula $An(MXW_{11}O_{39}) (1)$, $An(M(XW_{11}O_{39})_2) (2)$, $An(XM_2W_{10}O_{40}) (3)$, $An(XM_3W_9O_{40}) (4)$, $An(P_3MW_{12}O_{62}) (5)$, $An(M(P_2W_{17}O_{61}) (6)$, $An(P_2M_3W_{15}O_{62}) (7)$, $An(Me(H_2O)_4(H_2O)_y(XW_9O_{34})_2) (8)$, $An(FeOA)_4(PW_9O_{34}) (9)$, $An(Ma(XW_9O_{34}) (10)$, $An(Co_9(OH)_3(H_2O)_6(HOP_4)_2(PW_9O_{34})_3) (11)$ and $An(M_4(H_2O)_2(P_2W_{15}O_{56})_2) (12)$. A = cation and n is the no. required for electrical neutrality, in (1) X = B, P, Si, Ge, Zn, (2+ or 3+), Fe(3+), Ga, Ti or Zr; M = Mn, Fe or Co (all 2+ or 3+), Cu, Ga, Ni, Zn, Ti, Zr, Al, In, V(4+ or 5+), Mo, Pb or Nb; Y = ligand; in (2) X = Ga, P, Si, Ge, or Ti; M = La, Ce (3+ or 4+), Pr, Sm, Nd, Eu, Gd, Tb, Dy, Ho, Tm or Yb; in (3) X = P, Si or V; M = Ti, Zr, V, Zn, Co or Fe(2+ or 3+); in (4) X = P, Fe(3+), Si or V; M = V, Fe(3+), Nb, Cr, Zr or Ti; in (5) M = Co or Mn (2+ or 3+), Ni, Zn, Fe(3+), Al, Ga, In, Ti, Zr, V, Mo or eta-5-RC₅H₄Ti; R = organic residue; in (6) M = Eu, Sm, Ce (3+ or 4+) or other stable lanthanoid metal ion; in (7) M = V, Ti, Mo or Nb; in (8) X = P, Fe(3+), Zn or Co; M = Mn, Fe, Co, Ni, Cu, Zn (all 2+), Zr, (FeCu)_{1/2}, or (WQ)_{1/4}; Q = Zn₃; ZnMn(2+ or 3+)₂, Mn(2+ or 3+)₃; Fe(2+ or 3+)₃; Ni₃; Cu₃; ZnV(4+)₂; ZnFe(2+)₂; ZnCo₂; Ni₃; ZnNi₂; ZnPd₂; Co₃; CoMn₂; CoFe(3+)₂; CoNi₂ or CoZn₂; y = 1-6; in (10) X = P or Si; if a = 1 or 2, M = WO₂; if a = 3; M = Zr(OH); CeO; Cu; (CuNO_x)_{1.3} (x = 2 or 3); WO₂; Zn; Mn or Fe (2+ or 3+); Ni; Co; (Q(WO₂))_{1/3}; (Cu₂CO)Y₃; (Cu₂CoNO₃)_{1/3}; or eta-C₅H₅Ti(OH)₂; Q₁ = Fe₂; FeCo; CoCu; Co₂; Ni₂ or Zn₂; in (12), M = Mn, Fe, Co, Ni, Cu or Zn (all 2+).

USE/ADVANTAGE - The cpds. are effective against e.g. yellow fever, dengue fever, Australian and Japanese encephalites and hepatitis C. They act by inhibiting viral replication. The cpds. are formulated conventionally for oral (pref.), rectal, topical etc., admin. for human or veterinary use, partic. at a daily dose of 15-60 mg/kg, esp. provide a peak plasma concn. of 2-50 microM.

Dwg.0/0

Dwg.0/0

L64 ANSWER 18 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1993-078737 [10] WPIX
 DNC C1993-034725
 TI Prodn. of glycoside(s) with high purity and yield - by reacting sugar having anomeric hydroxyl gp. with glycone in presence of metal catalyst in inert solvent.
 DC B03 C02
 IN ERNST, B; HAFNER, A; HENEGHAN, M
 PA (CIBA) CIBA GEIGY AG; (NOVS) NOVARTIS AG; (CIBA) CIBA GEIGY CORP
 CYC 10
 PI EP 531256 A1 19930310 (199310)* DE 31p
 R: CH DE FR GB IT LI NL
 CA 2077410 A 19930305 (199320)
 JP 05202084 A 19930810 (199336) 28p
 US 5342929 A 19940830 (199434)
 EP 531256 B1 19970423 (199721) DE 39p
 R: CH DE FR GB IT LI NL
 DE 59208378 G 19970528 (199727)
 ADT EP 531256 A1 EP 1992-810654 19920826; CA 2077410 A CA 1992-2077410 19920902; JP 05202084 A JP 1992-258848 19920903; US 5342929 A US 1992-937818 19920831; EP 531256 B1 EP 1992-810654 19920826; DE 59208378 G DE 1992-508378 19920826, EP 1992-810654 19920826
 FDT DE 59208378 G Based on EP 531256
 PRAI CH 1991-2603 19910904
 AB EP 531256 A UPAB: 19970606
 Prepn. of glycosides comprises reaction of a protected sugar (A) (contg. an anomeric OH gp.) with an aglycone (B), opt. with an orthoester, in an inert solvent in the presence of catalytic amts. of a metal complex salt (C).

(B) is selected from (i) aliphatic-, cycloaliphatic-, aromatic- or

aromatic-aliphatic alcohols, and (ii) protected sugars with a non-anomeric hydroxyl gp. (C) is comprised of (i) a metal cation from main gps. 2-5, transition gp. 1-8 or the lanthanides, (ii) one or more, opt. different, mono- or polydentate ligands corresp. to the coordination no. of the cation, (iii) opt. a nucleophilic anion selected from halide, pseudohalide, 1-8C alkoxide, phenoxide (opt. substd. by 1-8C alkyl), 2-12C secondary amido, bis((tri-1-6C-alkyl)silyl)amide or cyclopentadienyl (opt. substd. by 1-4C alkyl) and (iv) a non-nucleophilic anion selected from anions of oxo acids, BF₄, PF₆, AsF₆, or SbF₆, corresp. to the valency of the complex metal cation.

USE/ADVANTAGE - The process gives prods. of high purity in high yield. It can be used for incorporation of protecting gps. at the anomeric OH gp. or for synthesis of oligosaccharides, glycolipids or glycopeptides. It is also useful for synthesis of pharmaceutical active agents or agrochemicals (e.g. natural prods. such as pheromones).
Dwg.0/0

L64 ANSWER 19 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1991-363331 [50] WPIX

DNC C1991-156522

TI Methacrolein prodn. in high yield and selectivity - is by gas phase catalytic oxidn. of isobutylene or tert. butanol with molecular oxygen in presence of catalyst.

DC A17 A41 E17 J04

IN MATSUURA, I

PA (MITK) MITSUI TOATSU CHEM INC

CYC 6

PI-- EP 460870 A 19911211 (199150)*

R: GB IT

JP 04041454 A 19920212 (199213) 5p

US 5138100 A 19920811 (199235) 5p

EP 460870 A3 19920102 (199320)

EP 460870 B1 19941207 (199502) EN 10p

R: DE FR GB IT

DE 69105630 E 19950119 (199508)

JP 2841324 B2 19981224 (199905) 6p

ADT EP 460870 A EP 1991-304898 19910530; JP 04041454 A JP 1990-146297

19900606; US 5138100 A US 1991-711198 19910606; EP 460870 A3 EP

1991-304898 19910530; EP 460870 B1 EP 1991-304898 19910530; DE 69105630 E

DE 1991-605630 19910530; EP 1991-304898 19910530; JP 2841324 B2 JP

1990-146297 19900606

FDT DE 69105630 E Based on EP 460870; JP 2841324 B2 Previous Publ. JP 04041454

PRAI JP 1990-146297 19900606

AB EP 460870 A UPAB: 19930928

Prepn. of methacrolein comprises subjecting isobutylene or a tert. butanol to a gas phase catalytic oxidn. with mol. O₂ in the presence of a catalyst which comprises a mixt. of a compsn. of formula MoaBibFecXdYeZfOg (I), X = Ni, Co; Y = K, Rb, Cs; Z = non-alkali metal; a, b, c, d, e, f, g = atomic ratio of each corresp. element; when a = 12, b = 0.1-10, c = 0-20, d = 0-20, e = 0-2, f = 0-4, g = no. of oxygen required to satisfy the valencies of the metals and formula LnhMolOj; Ln = rare earth element; h, l, j = atomic ratio of each corresp. element; and when l = 1, h = 0.2-1.5, j = no. of oxygen atoms required to satisfy the valencies of the elements.

USE/ADVANTAGE - The catalyst contg. (I) and (II) exhibits a high activity and selectivity and gives methacrolein at low temp.
0/0

L64 ANSWER 20 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1990-128338 [17] WPIX

DNC C1990-056478

TI New organic metallic carbonate(s) - is prepd. by dissolving metal

alkoxide(s) in solvent and adding carbon di oxide, for super-conductive material, etc..

DC E12 L03

PA (TORA) TORAY IND INC

CYC 1

PI JP 02076840 A 19900316 (199017)*

ADT JP 02076840 A JP 1988-183794 19880722

PRAI JP 1988-183794 19880722

AB JP 02076840 A UPAB: 19930928

Organic metallic carbonate(s) of formula $M(OCOOR)_nX_m$ (I) is new: M's metal (s) selected from Ba, Y, Cu, Zr, Nb, Ta, In, Sn, Fe, Si, Ga, Sr, W, Mn, Co, Zn, Ni, Al, La, Ti, Bi, B, Cs, Gd, Ge, Hf, Hg, Ho, K, Li, Mg, Mo, Na, Nb, Rb, Be, Ce, Pr, Nd, Pm, Sm, Eu, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa, U, Pu, Pb, Ca, Sc, V, Cr, Cd and Tl, R is 1-8C alkyl gp(s), allyl gp, 6-8C aryl gp(s), 7-8C aralkyl gp(s) or 2-8C alkoxyalkyl gp(s), X is 1-8C alkoxy gp(s), 2-8C alkoxyalkoxy gp(s) or acetylacetonate, m is 0 or positive integers, and, n: is 1 or more, and (m+n) corresponds to valency of M.

USE/ADVANTAGE - (I) is useful as material of superconductive materials, inorganic thin-film, fine particles etc. (I) is more soluble than corresponding alkoxide(s) (II) and superconductive thin-film is prepared more readily by using (I) instead of (II).
0/0

L64 ANSWER 21 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1990-101142 [14] WPIX

DNC C1990-044388

TI Prodn. of gp-IIIB metal alkoxylation catalysts - by mixing Gp-IIIB metal source with activator, mixing metal source with active hydrogen contg. organic cpd. and combining mixts..

DC A97 E19 J04

IN KING, S W

PA (UNIC) UNION CARBIDE CHEM & PLASTICS TECHNOLOGY; (UNIC) UNION CARBIDE CHEM; (UNIC) UNION CARBIDE CHEM & PLASTICS

CYC 10

PI EP 361620 A 19900404 (199014)* EN 27p

R: BE DE FR GB IT NL SE

JP 02139042 A 19900529 (199027)

JP 03229644 A 19911011 (199147)#

US 5118650 A 19920602 (199225) 17p

CA 1337942 C 19960116 (199614)

JP 2890322 B2 19990510 (199924)# 25p

ADT EP 361620 A EP 1989-202443 19890929; JP 02139042 A JP 1989-256931

19890930; JP 03229644 A JP 1990-20537 19900201; US 5118650 A US

1988-251436 19880930; CA 1337942 C CA 1989-615328 19890929; JP 2890322 B2

JP 1990-20537 19900201

FDT JP 2890322 B2 Previous Publ. JP 03229644

PRAI US 1988-251436 19880930

AB EP 361620 A UPAB: 19930928

Alkoxylation catalyst is prepd. as follows: (a) a Gp IIIB source (I) (metal or metal-contg. cpd.) is reacted or solubilised (at least partially) by mixing it with an activator $Za-X-Q-Y-Z'b$ (II) (X, Y = O, N, S or P; a, b satisfy valences; Q = organic radical which is electropositive or neutral relative to X and/or Y; Z, Z' = H or non-interfering radical) to give a Gp IIIB metal contg. compsn. of titratable alkalinity; (b) a metal source (III) (di- or polyvalent metal or metal contg. cpd.; not Gp IIA) is reacted with an organic cpd. (IV) having at least one active H; (c) the Gp IIIB contg. compsn. of step (a) is reacted with the metal-contg. compsn. of step (b); and (d) the resulting precursor compsn. is reacted with a divalent or polyvalent oxyacid (V) (or di- or polyvalent salt; or mixts.) to afford an alkoxylation catalyst.

USE/ADVANTAGE - The prepd. catalysts are useful in the manufacture of a range of alkoxyated prods. having a narrow distribution at higher levels of alkoxylation. In partic., the catalysts are useful in the prepn. of premium quality alkoxyates such as 'Carbowax' and 'Tergitol' (both RTM).

L64 ANSWER 22 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1990-101140 [14] WPIX
 DNC C1990-044386
 TI Prepn. of calcium contg. alkoxylation catalysts - by mixing calcium source with activator and mixing obtd. compsn. with di-or poly-valent oxyacid.
 DC A97 E19 J04
 IN KING, S W
 PA (UNIC) UNION CARBIDE CHEM; (UNIC) UNION CARBIDE CHEM & PLASTICS
 CYC 9
 PI EP 361618 A 19900404 (199014)* EN 25p
 R: BE DE FR GB IT NL SE
 JP 02135145 A 19900524 (199027)
 JP 03229639 A 19911011 (199147)#
 US 5120697 A 19920609 (199226) 15p
 ADT EP 361618 A EP 1989-202441 19890929; JP 02135145 A JP 1989-256927
 19890930; JP 03229639 A JP 1990-20533 19900201; US 5120697 A US
 1988-251434 19880930
 PRAI US 1988-251434 19880930
 AB EP 361618 A UPAB: 19930928
 Alkoxylation catalyst is prepd. as follows: (a) a Ca source (I) (Ca metal or Ca-contg. cpd.) is reacted or solubilised (at least partially) by mixing it with an activator $Za-X-Q-Y-Z'b$ (II) (X, Y = O, N, S or P; a, b satisfy valences; Q = organic radical which is electropositive or neutral relative to X and/or Y; Z, = H or non-interfering radical) to give a Ca-contg. compsn. of titratable alkalinity and (b) the resulting Ca-contg. compsn. is reacted with a divalent or polyvalent oxyacid salt (III) (or mixts.) to afford an alkoxylation catalyst.
 USE/ADVANTAGE - The prepd. catalysts are useful in the manufacture of a range of alkoxyated prods. having a narrow distribution at higher levels of alkoxylation. In partic., the catalysts are useful in the prepn. of premium quality alkoxyates such as 'Carbowax' and 'Tergitol' (both RTM).
 0/0

L64 ANSWER 23 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1989-072180 [10] WPIX
 DNN N1989-054966 DNC C1989-032074
 TI Mfg. superconducting oxide - involves mixing starting cpds. with chelate ligand cpd., heating in atmos., drying, and combustion oxidising.
 DC A85 E37 L03 U14 X12
 PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP
 CYC 1
 PI JP 01024016 A 19890126 (198910)* 6p
 JP 2622116 B2 19970618 (199729) 5p
 ADT JP 01024016 A JP 1987-178733 19870717; JP 2622116 B2 JP 1987-178733
 19870717
 FDT JP 2622116 B2 Previous Publ. JP 01024016
 PRAI JP 1987-178733 19870717
 AB JP 01024016 A UPAB: 19930923
 Prodn. in described of the superconductor of compsn. $(M1)_x(M2)_y(M3)_zO_w$ in which (M1 = one or more of B, Ao, Ga, In, Tl, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, or Lu; M2 = one or more of Be, Mg, Ca, Sr, Ba, Ra, Sn, Pb.; Me = Cu; x, y, z and w = optional atom molar fraction).

The prodn. process involves the following processes: (A) Mixed soln.

of metal salt of M1, M2, M3, and chelate ligand contg. of two or more bonds seat, is prepared. (B); The mixed soln. is contacted with the atmosphere heated in atomising state or a flame. It is dried and combustion oxidised to the metal oxide.

The appts. for producing the superconductor is composed of (the following (a), (b), (c), and (d)). (a) a combustion chamber. (b) a spray nozzle part from which the raw material soln. is supplied to (a) as a fog. (c) mechanism with which the raw materials soln. and pressed air or oxygen are supplied to the nozzle (b). (d) a mechanism in which fog raw materials is dried and combustion oxidized at the same time (pref. (d) is flame).

Pref. the metal salt is nitrate, perchlorate, chlorate or bromate. The chelate ligand is one or more of oxalic acid, hydroxo acid (pref. tartaric acid, citric acid, gluconic acid, etc.), amino acid (pref. ethylenediamine tetraacetic acid, etc.), polymer having carboxylic acid or hydroxamic gp. (pref. polyacrylic acid, poly-methacrylic acid, etc.), or rubeanic acid. In the process preparing the mixed soln. of metal salt and the chelate ligand, one or more of organic additives (pref. cellulose, glycerin, triethanolamien, ethyl ethylene glycol, etc.) is added.

ADVANTAGE - Oxide superconductor of high stability can be produced efficiently, with low temp. process.
0/0

L64 ANSWER 24 OF 31 WPIX (C) 2003 THOMSON DERWENT
AN 1988-348612 [49] WPIX
DNN N1988-264133 DNC C1988-154020
TI Prepn. of superconducting copper contg. metallic oxide(s) - by hydrolysing meal halide(s) or nitrate(s) with alkali, sepg. obtd. reaction prods. and heating in oxygen atmos.
DC E32 L03 U14 X12
PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP
CYC 1
PI JP 63256519 A 19881024 (198849)* 6p
JP 2528117 B2 19960828 (199639) 5p
ADT JP 63256519 A JP 1987-92851 19870415; JP 2528117 B2 JP 1987-92851 19870415
FDT JP 2528117 B2 Previous Publ. JP 63256519
PRAI JP 1987-92851 19870415
AB JP 63256519 A UPAB: 19961011
Superconducting material of formula $(M1)_x(M2)_y(M3)_zO_w$, where M1 is B, Al, Ga, In, Tl, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb or Lu; M2 is Be, Mg, Ca, Sr, Ba, Ra, Sn, Pb; M3 is Cu; x, y, z and w represent molar ratio of corresp. constituent elements, is prepd. by hydrolysing halides or nitrates of M1, M2, and M3 with alkali or solvolysed opt. while heating. The obtd. reaction prods. are sepd. and heated in an O2 atmos. or in an atmos. free of O2.
Pref. decomposing agent free of alkali metals is used in alkali hydrolysis or solvolysis. An organic cpd. which supplies OH or alkoxide ions is used as the decomposing agent, esp., tetralkylammonium hydroxide, trialkylsulphonium hydroxide, diazabicycloundecene, or dimethylaminopyridine.
ADVANTAGE - Superconducting metallic oxide having a narrow onset-offset width of transition temp., e.g., 0.2 K, is produced with good reproducibility.
0/1
Dwg.0/1

L64 ANSWER 25 OF 31 WPIX (C) 2003 THOMSON DERWENT
AN 1988-243784 [35] WPIX
CR 1988-279936 [40]; 1988-333534 [47]; 1989-055505 [08]; 1995-208779 [28]; 1995-233623 [31]; 1996-356348 [36]
DNN N1988-185472 DNC C1988-108956
TI Mfr. of superconductive oxide material - by hydrolysis and

dehydration-condensation of an organic soln. of metal alkoxide(s) carboxylate(s) or acetyl acetate(s).

DC E37 L03 P42 P64 U11 U14 X12

IN HAYASHI, K; HAYASHI, N; INAZAWA, S; MIYAZAKI, K; NAKAI, Y; SAWADA, K; TAKAHASHI, K; TAKANO, S; YOSHIDA, N; O/OASHI, K

PA (SUME) SUMITOMO ELECTRIC IND CO; (FUKA-N) FUKAMI PATENT OFFICE

CYC 6

PI EP 280292 A 19880831 (198835)* EN 19p

R: FR GB

JP 01145305 A 19890607 (198929)

CA 1288644 C 19910910 (199141)

EP 304061 A3 19920610 (199332)

US 5232909 A 19930803 (199332) 18p

US 5273954 A 19931228 (199401) 17p

EP 280292 B1 19950726 (199534) EN 10p

R: DE FR GB

DE 3854208 G 19950831 (199540)

JP 2557486 B2 19961127 (199701) 14p

JP 2700207 B2 19980119 (199808) 14p

ADT EP 280292 A EP 1988-102805 19880225; JP 01145305 A JP 1988-45601 19880226;

EP 304061 A3 EP 1988-113445 19880818; US 5232909 A Div ex US 1988-234643

19880822, US 1992-862103 19920508; US 5273954 A Div ex US 1988-234643

19880822, US 1992-832565 19920207; EP 280292 B1 EP 1988-102805 19880225;

DE 3854208 G DE 1988-3854208 19880225, EP 1988-102805 19880225; JP 2557486

B2 JP 1988-202940 19880815; JP 2700207 B2 JP 1988-45601 19880226

FDT US 5232909 A Div ex US 5112802; US 5273954 A Div ex US 5112802; DE 3854208

G Based on EP 280292; JP 2557486 B2 Previous Publ. JP 01144518; JP 2700207

B2 Previous Publ. JP 01145305

PRAI JP 1987-208887 19870822; JP 1987-44264 19870226; JP 1987-44265

19870226; JP 1987-51140 19870305; JP 1987-75427 19870327; JP

1987-91723 19870414; JP 1987-119792 19870516; JP 1987-207743

19870820; JP 1988-45601 19880226; JP 1987-207744 19870820; JP

1987-208924 19870821; JP 1987-208925 19870821; JP 1987-208886

19870822

AB EP 280292 A UPAB: 19971013

Oxide superconductor is formed by: forming an organic soln. contg. an alkoxide, carboxylate or acetylacetate of a IA, IIA or IIIA element and a IB, IIB or IIIB element; adding water to cause hydrolysis and dehydration/condensation reaction; and heating.

The water may be added to the mixed organic soln., or separately to organic solns. of each cpd. which are then mixed.

USE/ADVANTAGE - In mfr. of e.g., Y-Ba-Cu-O superconductive oxide material. Prod. may be recovered as an elongated body, e.g., fibre or wire, or as a supported thin film using easy methods without need for high temps. and with the materials in the prod. completely reacted.

Dwg.3A/4

L64 ANSWER 26 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1987-296583 [42] WPIX

DNN N1987-221694 DNC C1987-126399

TI Radiation image conversion panel - contg. micro-capsulated stimuable fluorescent substance particle dispersed in binder.

DC A89 E14 E17 G04 K08 S05

PA (KONS) KONISHIROKU PHOTO IND CO LTD

CYC 1

PI JP 62209399 A 19870914 (198742)* 8p

ADT JP 62209399 A JP 1986-53270 19860311

PRAI JP 1986-53270 19860311

AB JP 62209399 A UPAB: 19930922

In a radiation image conversion panel having a stimulative fluorescent layer in which a stimulative fluorescent substance, e.g. BaSO4:Dy, etc. is

dispersed in a binder, e.g. gelatin, polysaccharide, etc. The stimulative fluorescent substance is micro-capsulated using a film-forming substance, e.g. resins, e.g. polyethylene, PVC, polyvinyl acetate, etc. The stimulative fluorescent substance may contain a dispersant, e.g. stearic acid, plasticiser, diethyl phthalate, etc. as needed. Pref. thickness of the microcapsule wall is 0.01-5 micro.m.

USE/ADVANTAGE - The radiation image conversion panel has excellent sensitivity to radiation and can give images of excellent clearness. It can be effectively used for long periods in medical diagnosis using X-ray photograph, etc.

1/2

L64 ANSWER 27 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1987-108680 [15] WPIX
 DNN N1987-081703 DNC C1987-045179
 TI Particulate compsn. of ferromagnetic metal oxalate - in submicron sized acicular particles.
 DC E12 L03 P53 T03 V02
 IN BONINOSALV, C; MOLLARD, P; ROUSSET, A
 PA (CNRS) CNRS CENT NAT RECH SCI; (ROUS-I) ROUSSLT A; (UYSA-N) UNIV SABATIER TOULOUSE; (UYTO-N) UNIV SABATIER TOULOUSE
 CYC 13
 PI WO 8702033 A 19870409 (198715)* FR 27p
 RW: AT BE CH DE FR GB IT LI LU NL SE
 W: JP US
 FR 2587989 A 19870403 (198719)
 EP 240530 A 19871014 (198741) FR
 R: AT BE CH DE FR GB IT LI LU NL SE
 JP 63501948 W 19880804 (198837)
 US 4803291 A 19890207 (198908) 8p
 EP 240530 B 19900425 (199017)
 R: AT BE CH DE FR GB IT LI LU NL SE
 DE 3670628 G 19900531 (199023)
 ADT WO 8702033 A WO 1986-FR338 19860930; FR 2587989 A FR 1985-14438 19850930; EP 240530 A EP 1986-905854 19860930; JP 63501948 W JP 1986-505196 19860930; US 4803291 A US 1987-62941 19870702
 PRAI FR 1985-14438 19850930
 AB WO 8702033 A UPAB: 19930922
 Particulate oxalate compsn. of simple or mixed ferromagnetic metals in the form of acicular particles 0.05-0.5 m long with a proportion of more than 60% particles with a length equal to the ave. +/- microns and an acicular ratio more than 3 the ave. length being 0.15-0.35 microns.
 USE/ADVANTAGE - Used in mfg. magnetic recording media. The test recording results are obtd. with particles of the above carefully controlled size range and length dia ratio.
 0/2

L64 ANSWER 28 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1986-182730 [28] WPIX
 CR 1985-128256 [21]
 DNC C1986-078785
 TI Regeneration of catalysts for maleic anhydride prodn. - by treatment with phosphorous cpd. and steam.
 DC A41 E17
 IN BARONE, B J; CLICK, G T
 PA (ELED) DENKA CHEM CORP
 CYC 1
 PI US 4596878 A 19860624 (198628)* 13p
 ADT US 4596878 A US 1984-645329 19840829
 PRAI US 1983-561320 19831214; US 1984-645329 19840829
 AB US 4596878 A UPAB: 19930922

Catalysts used for vapour-phase oxidn. of 4C hydrocarbons to maleic anhydride (MA), namely fixed-bed vanadium-phosphorus-oxygen catalysts with a P:V atomic ratio of 0.5-3:1, are regenerated by (a) contacting with a P halide, P oxyhalide, organic phosphine, organic phosphite and/or organic phosphate at 0-600 deg. C and then (b) contacting with a flow of steam at 300-600 deg.C.

Steps (a) and (b) may be effected continuously or intermittently, in the presence or absence of the hydrocarbon feed, esp. n-butane.

ADVANTAGE - Treatment with the P cpd. restores selectivity and treatment with steam restores activity (butane conversion), thus restoring high MA yields, e.g. to above 70 wt.%. ..

0/8

L64 ANSWER 29 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1986-050091 [08] WPIX
 DNN N1986-036649 DNC C1986-021061
 TI New magnetic cpds. - comprising iron or cobalt, rare earth metals, boron and hydrogen.
 DC A60 A85 E31 L03 T03 V02
 IN BOURSIER, D; CHAUDOUET, P; FRUCHART, D; FRUCHART, R; LHERITIER, P; MADAR, R; ROUAULT, A; TAUNIER, P
 PA (CNRS) CNRS CENT NAT RECH SCI
 CYC 8
 PI FR 2566758 A 19860103 (198608)* 12p
 EP 173588 A 19860305 (198610) FR
 R: DE GB IT NL
 JP 61031303 A 19860213 (198613)
 US 4663066 A 19870505 (198720)
 EP 173588 B 19880824 (198834) FR
 R: DE GB IT NL
 DE 3564557 G 19880929 (198840)
 JP 05080401 B 19931109 (199347) 7p
 EP 173588 B2 19940817 (199432) FR 9p
 R: DE GB IT NL
 ADT FR 2566758 A FR 1984-10387 19840629; EP 173588 A EP 1985-401230 19850620; JP 61031303 A JP 1985-140651 19850628; US 4663066 A US 1985-746360 19850619; JP 05080401 B JP 1985-140651 19850628; EP 173588 B2 EP 1985-401230 19850620
 FDT JP 05080401 B Based on JP 61031303
 PRAI FR 1984-10387 19840629
 AB FR 2566758 A UPAB: 19930922
 New cpds. are claimed of compsn. R₂Fel₄BH_x or R₂Co₁₄BH_x where x=0-5, R is a rare earth element and the Fe and Co may be partially substituted by 3d,4d,5d transition elements or element such as Al, Si, Ge.
 USE/ADVANTAGE - The cpds. are used as supports for magnetic recording and reading or for ferrofluids, incorporation into elastomeric, plastic or similar masses. By comparison with the phase Nd₂Fel₄B, the cpd. contg. absorbed hydrogen shows an increase of magnetic moment at ambient temp. and a redn. of the magnetic field needed for saturation, together with an increase of the Curie point.
 0/2

L64 ANSWER 30 OF 31 WPIX (C) 2003 THOMSON DERWENT
 AN 1985-128256 [21] WPIX
 CR 1986-182730 [28]
 DNC C1985-055850
 TI Regenerating vanadium-phosphorus catalyst for maleic anhydride prodn. - by treatment with phosphorus and steam.
 DC A41 E13
 IN BARONE, B J; CLICK, G T
 PA (ELED) DENKA CHEM CORP; (SCDE-N) SCI DESIGN CO INC; (ELED) DENKI KAGAKU

KOGYO KK

CYC 3

PI US 4515899 A 19850507 (198521)* 13p

JP 60143832 A 19850730 (198536)

JP 04075060 B 19921127 (199252) 18p

KR 9203075 B1 19920413 (199346)

ADT US 4515899 A US 1983-561320 19831214; JP 60143832 A JP 1984-264223
 19841214; JP 04075060 B JP 1984-264223 19841214; KR 9203075 B1 KR
 1984-7940 19841214

FDT JP 04075060 B Based on JP 60143832

PRAI US 1983-561320 19831214; US 1984-645329 19840829

AB US 4515899 A UPAB: 19940103

A V-P-O catalyst (A) of P:V atom ratio 0.5-3:1 is regenerated by treating with a P cpd. (I) at 0-600 deg.C and then contacting with a flow of steam at 300-600 deg.C so that the yield of the catalyst is increased over that provided by treatment with (I) alone. (I) is a P (oxy)halide, organic phosphine, phosphite or phosphate, or their mixts.

USE/ADVANTAGE - (A) are used, as fixed beds, for vapour-phase oxidn. of C4 hydrocarbons to maleic anhydride (MA). The regeneration improves selectivity and extends catalyst life. The steam treatment redistributes added P (which improves selectivity but lowers activity) over the whole bed whereas normally is concentrates at the feed ends.

Dwg.0/8

L64 ANSWER 31 OF 31 WPIX (C) 2003 THOMSON DERWENT

AN 1981-64055D [35] WPIX

TI Catalysts for maleic anhydride prodn. from butane - comprising phosphorus-vanadium oxide in form of hollow cylinders.

DC A41 E13

IN BARONE, B J; CLICK, G T

PA (SCDE-N) SCI DESIGN CO INC; (ELED) DENKA CHEM CORP

CYC 10

PI US 4283307 A 19810811 (198135)* 8p

FR 2483255 A 19811204 (198202)

GB 2079171 A 19820120 (198203)

JP 57024643 A 19820209 (198211)

DE 3118835 A 19820415 (198216)

CA 1154423 A 19830927 (198343)

GB 2079171 B 19840111 (198402)

IT 1170996 B 19870603 (198950)

JP 02005461 B 19900202 (199009)

DE 3118835 C2 19940414 (199413) 8p

ADT GB 2079171 A GB 1981-15767 19810522; JP 57024643 A JP 1981-82415 19810529;
 DE 3118835 C2 DE 1981-3118835 19810512

PRAI US 1980-155556 19800602

AB US 4283307 A UPAB: 19930915

Catalysts for partial oxidn. of n-butane comprise a P/V/O complex, pref. of formula $V(P)_a(M)_b(O)_x$ (where $a = 0.90-1.3$; $b = 0.001-0.4$, esp. $0.005-0.4$; x is indeterminate; and M is a metal), in the form of hollow cylinders.

Prefd. catalysts are those where M is Zn, Si and/or Li. The cylinders pref. have a particle size of 2 1/2-10 mesh, esp. with length = dia. = 5/32-3/16 inch. The cylinders pref. have a central bore which is 30-50% of the dia. of the cylinder.

The hollow catalyst particles give higher n-butane conversions with higher selectivity for maleic anhydride (MA) than solid particles of the same material.

L66 ANSWER 2 OF 7 WPIX (C) 2003 THOMSON DERWENT
 AN 2001-040892 [05] WPIX
 DNC C2001-011814
 TI Compound having varistor, antiferromagnetic and conductivity properties is obtained by incorporating atoms into vacant lattice points of crystal of e.g. indium oxide or zinc oxide.
 DC E37 L03
 IN KIYOSHIMA, R; KOHIKI, S; MATSUSHIMA, S; SASAKI, M
 PA (KAGA-N) KAGAKU GIJUTSU SHINKO JIGYODAN; (NISC-N) JAPAN SCI & TECHNOLOGY CORP
 CYC 22
 PI WO 2000066496 A1 20001109 (200105)* JA 43p
 RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
 W: KR US
 JP 2000319017 A 20001121 (200108) 10p
 EP 1174390 A1 20020123 (200214) EN
 R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
 ADT WO 2000066496 A1 WO 2000-JP1866 20000327; JP 2000319017 A JP 1999-123829 19990430; EP 1174390 A1 EP 2000-911384 20000327, WO 2000-JP1866 20000327
 FDT EP 1174390 A1 Based on WO 200066496
 PRAI JP 1999-123829 19990430
 AB WO 200066496 A UPAB: 20010124
 NOVELTY - A compound is obtained by incorporating atoms into the vacant lattice points of a crystal of e.g. indium oxide or zinc oxide.
 DETAILED DESCRIPTION - A compound is obtained by incorporating atoms Cz into the vacant lattice points of a crystal of formula AxBy.
 A = a cation;
 B = an anion;
 x and y satisfy an electrically neutral stoichiometric ratio;
 C = atom capable of forming an ion which has an arbitrary valence and is introduced into a vacant lattice point of the crystal of the compound AxBy;
 z = 0 to a number corresponding to the concentration of vacant lattice points of AxBy.
 USE - The compound can modify electrical, optical and/or semiconductor properties e.g. varistor characteristics, antiferromagnetic properties and conductivity.
 ADVANTAGE - The introduction of the atoms can be controlled with respect to position and/or concentration. Production efficiency is excellent.
 Dwg.0/19

L66 ANSWER 3 OF 7 WPIX (C) 2003 THOMSON DERWENT
 AN 2000-649446 [63] WPIX
 DNN N2000-481540 DNC C2000-196581
 TI Composition for fluorescent substance paste for forming fluorescent substance film.
 DC A85 E14 L03 V05
 PA (KASO) KASEI OPTONIX LTD
 CYC 1
 PI JP 2000204362 A 20000725 (200063)* 5p
 ADT JP 2000204362 A JP 1999-43566 19990113
 PRAI JP 1999-43566 19990113
 AB JP2000204362 A UPAB: 20001205
 NOVELTY - A composition for fluorescent substance paste is formed by dispersing a fluorescent substance in a binder resin-containing solvent. The composition contains an antioxidant.
 USE - The composition is used in the fluorescent substance paste for forming a fluorescent substance film for a field emission display, plasma display panel, flat panel display by printing, including screen printing.

ADVANTAGE - The use of the antioxidant evolves less change in aged viscosity. The composition dramatically suppresses a decrease in viscosity in storage and has stable aged properties.
Dwg.0/0

L66 ANSWER 4 OF 7 WPIX (C) 2003 THOMSON DERWENT

AN 1996-171164 [17] WPIX

DNN N1996-143842 DNC C1996-053969

TI Printing process - using recording sheets comprising monomeric salts to give rapid drying on microwave exposure and increased solid area density.

DC A97 E19 E37 G05 P75

IN COLT, R L; GUNDLACH, K B; MALHOTRA, S L

PA (XERO) XEROX CORP

CYC 1

PI US 5500668 A 19960319 (199617)* 21p

ADT US 5500668 A US 1994-196669 19940215

PRAI US 1994-196669 19940215

AB US 5500668 A UPAB: 19960428

The printing process comprises: (a) providing a recording sheet comprising a paper substrate and monomeric salt(s); (b) applying an aq. recording liq. to the recording sheet in an imagewise pattern; and (c) exposing the substrate to microwave radiation, thereby drying the recording liq. on the recording sheet.

Also claimed are printing processes comprising: (1) (a) incorporating into an ink jet printing apparatus a recording sheet as above, the ink jet printing apparatus also contg. an aq. ink; (b) causing droplets of the ink to be ejected in an imagewise pattern onto the recording sheet; and (c) as above; the printing apparatus employing a thermal ink jet process wherein ink in the nozzles is selectively heated in an imagewise pattern; (2) (a) providing a recording sheet comprising a substrate and monomeric salt(s); (b) and (c) as in the main claim, wherein the recording sheet also contains betaine.

USE - The process is useful in ink jet printing, esp. thermal ink jet printing.

ADVANTAGE - The recording sheets enable pptn. of dye from a liq. ink during printing, exhibit rapid drying times when imaged with aq. inks, intercolour bleed, little or no curling after drying by microwave radiation, increased solid area density, improved resistance to show through and reduced feathering.
Dwg.0/0

L66 ANSWER 5 OF 7 WPIX (C) 2003 THOMSON DERWENT

AN 1992-192084 [10] WPIX

DNC C1992-087867

TI Dissolving organic chain or ladder polymer in aprotic organic solvent - mixed with metal halide lewis acid for solubilising macromolecules for prodn. of films, coatings etc..

DC A26 A82 E13 F01 G02

IN JENEKHE, S A; PETERSON, J R

PA (HONEY) HONEYWELL INC

CYC 1

PI US 5114610 A 19920519 (199310)* 8p

ADT US 5114610 A Cont of US 1988-291815 19881229, US 1990-492201 19900312

PRAI US 1988-291815 19881229; US 1990-492201 19900312

AB US 5114610 A UPAB: 19931006

An organic chain or ladder polymer is dissolved in a solvent system comprising a Lewis acid and a aprotic organic solvent (I). The Lewis acid has the formula MX_n where M is an element having metallic characteristics, X is a halogen and $n = 1-6$. (I) has an electron donor number of 10 or less.

The polymer is pref. poly(p-phenylene-2,6-benzobisthiazole) (PBT)

poly(p-phenylene-2,6-benzobisoxazole) (PBO) , benzimidazobenzophenanthroline, polybenzimidazobenzophenanthroline, or poly(p-phenylene-2,6-benzimidazole) (PBI). The Lewis acid is a halide of Fe, Al, In, Sb, Ga, Ti, Sn, Mo, Ta, or B, e.g. AlCl₃, FeCl₃, GaCl₃, SbCl₅, AsF₃ or SbF₅. (I) is a 1-6C nitroalkane, e.g. nitromethane, nitrobenzene, 1,2-dichloroethane, benzene, toluene, xylene or chlorobenzene. The soln. can additionally contain an organic solvent of high electron donor properties. The concn. of Lewis acid in the solvent is at least 0.01M and at least 0.1 wt. %.

USE/ADVANTAGE - The polymer soln. is used to produce films, coatings or fibres of high strength and resistance to high temp. and weathering.
0/2

L66 ANSWER 6 OF 7 WPIX (C) 2003 THOMSON DERWENT

AN 1990-334269 [44] WPIX

DNN N1990-255505 DNC C1990-145130

TI Solubilisation of macromolecules - including rigid chain and ladder polymers in aprotic organic solvents by complexing with electron acceptor mediating agents.

DC A26 E36 X12

IN JENEKHE, S A

PA (HONE) HONEYWELL INC

CYC 1

PI US 4963616 A 19901016 (199044)*

ADT US 4963616 A US 1988-291924 19881229

PRAI US 1988-291924 19881229

AB US 4963616 A UPAB: 19930928

Macromolecular cpds. (I) of interest, selected from oligomers and polymers which are insoluble. as such in aprotic organic solvents (II), are solubilised by complexing with electron acceptor mediating species (III). Typically (I) is added to (II) contg. (II) in required amt., or is first complexed with (III) and the complex dissolved in (II). Also claimed are specified (I) complexes.

materials. Pref. (I) includes one of poly (p-phenylene-2,6-benzothiazole) (PBT) benzimidazobenzophenanthroline ladder polymers (BBL): 5, 12-dihydro-5, 7, 12, 14-tetraazapentacene oligomer (DHTAP); polybenzimidazophenanthroline (BBB) semi-ladder, and its oligomeric model cpd. (cis-BB), (II) include 1-6C nitroalkenes, benzoyl chloride, thionyl chloride, 1-6C nitroalkanes, 1, 2-dichloroethane, nitrobenzene, benzene, toluene, xylenes and chlorobenzene and combinations thereof the last 7 are pref. (III) is a Lewis acid of formula MX_n; M = Fe, Al, In, Sb, Ga, Ti, Sn, Mo, Ta or B; X = F, Cl, Br or I, and n = 2-6. Pref. are AlCl₃, FeCl₃, GaCl₃, SbCl₃, InCl₃, SbCl₅, AsF₃ and SbF₅.

USE/ADVANTAGE - Macromolecules including rigid chain and ladder polymers, capable of forming complexes with (III) are solubilised in (II). The soln. can be used to produce films, coatings, fibres, sheets and other forms of these recalcitrant polymers, having interesting electronic and optical properties in addn. to their excellent thermal stability and mechanical properties.

2/2

L66 ANSWER 7 OF 7 WPIX (C) 2003 THOMSON DERWENT

AN 1984-245013 [40] WPIX

DNN N1984-183290 DNC C1984-103409

TI Monochrome display cathode ray tube - has phosphor mixt. of long after glow red green and blue emitting phosphors.

DC E37 L03 V05

IN HAYAKAWA, M; SUZUKI, H; YOSHIDA, H

PA (KASO) KASEI OPTONIX LTD

CYC 6

PI EP 120453 A 19841003 (198440)* EN 25p

R: DE GB IT NL
 US 4631445 A 19861223 (198702)
 EP 120453 B 19890503 (198918) EN

R: DE GB IT NL
 DE 3478072 G 19890608 (198924)
 KR 9001743 B 19900319 (199105)

ADT EP 120453 A EP 1984-103108 19840321; US 4631445 A US 1984-592946 19840323

PRAI JP 1983-40778U 19830323

AB EP 120453 A UPAB: 19930925

The display tube includes a white emitting fluorescent screen composed of a phosphor mixt. contg. 40-70 wt.% long after-glow red emitting Eu-activated In borate phosphor; 10-40 wt.% long after-glow green emitting Mn-activated Zn silicate phosphor; and 10-50 wt.% long after-glow blue emitting Ag-activated ZnS phosphor. The fluorescent screen is formed on the surface of a faceplate facing an electron gun emitting cathode rays.

USE/ADVANTAGE - The cathode ray tube is useful for providing high resolution displays for terminal display units of a computer system or display units of an aircraft system. The phosphors have long enough after-glow to prevent flickering, and comparable after-glow, avoiding colour shifts. It has a luminance 40-70% higher than the conventional long afterglow mixt., shows no brightness drop on extended ageing and no colour shift. It is free from hazardous materials, and capable of a high resolution display.

1/4

L26 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:704768 HCAPLUS
 DN 134:122946
 TI VUV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$)
 AU Hongpeng, Y.; Hong, G.; Zeng, X.; Kim, C.-H.; Pyun, C.-H.; Yu, B.-Y.; Bae, H.-S.
 CS Changchun Institute of Applied Chemistry, Key Laboratory of Rare Earth Chemistry and Physics, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
 SO Journal of Physics and Chemistry of Solids (2000), 61(12), 1985-1988
 CODEN: JPCSAW; ISSN: 0022-3697
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 AB Vacuum UV excitation spectra of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln} = \text{Y}, \text{Gd}$; $\text{Re} = \text{Eu}, \text{Tb}$), along with x-ray photoelectron spectra, were measured. The spectra are tentatively interpreted in terms of the optical properties of the rare earth ions and the band structure. There is an energy transfer from the hosts to the rare earth ions. Also the top of the valence band in the Gd compd. is mainly formed by the 2p levels of O^{2-} and the 4f levels of Gd^{3+} , and in the Y compd. mainly by the 2p levels of O^{2-} .
 IT Luminescence
 (UV; vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT Energy transfer
 Valence band
 X-ray photoelectron spectra
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 7440-27-9, Terbium, properties 7440-53-1, Europium, properties 22541-18-0, Europium $3+$, properties 22541-20-4, Terbium $3+$, properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 13813-76-8, Aluminum yttrium borate ($\text{Al}_3\text{YB}_4\text{O}_{12}$) 13813-77-9, Aluminum gadolinium borate ($\text{Al}_3\text{GdB}_4\text{O}_{12}$) 260809-40-3, Aluminum gadolinium terbium borate ($\text{Al}_3\text{Gd}_0.85\text{Tb}_0.15(\text{BO}_3)_4$) 260809-41-4, Aluminum europium gadolinium borate ($\text{Al}_3\text{Eu}_0.15\text{Gd}_0.85(\text{BO}_3)_4$) 320608-54-6, Aluminum europium yttrium borate ($\text{Al}_3\text{Eu}_0.15\text{Y}_0.85(\text{BO}_3)_4$) 320608-87-5, Aluminum terbium yttrium borate ($\text{Al}_3\text{Tb}_0.15\text{Y}_0.85(\text{BO}_3)_4$)
 RL: PRP (Properties)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:180771 HCAPLUS
 DN 132:214243
 TI Photoluminance properties of $\text{Al}_3\text{GdB}_4\text{O}_{12}$ phosphors activated by Tb^{3+} and Eu^{3+}
 AU Kim, Ki-Woon; Kang, Sei-Sun; Lee, Rhim-Youl
 CS Department of Materials Science & Engineering, Dankook University, Cheonan, 330-714, S. Korea
 SO Han'guk Chaelyo Hakhoechi (2000), 10(1), 49-54
 CODEN: HCHAEU; ISSN: 1225-0562
 PB Materials Research Society of Korea
 DT Journal
 LA Korean

L26 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:704768 HCAPLUS
 DN 134:122946
 TI VUV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$)
 AU Hongpeng, Y.; Hong, G.; Zeng, X.; Kim, C.-H.; Pyun, C.-H.; Yu, B.-Y.; Bae, H.-S.
 CS Changchun Institute of Applied Chemistry, Key Laboratory of Rare Earth Chemistry and Physics, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
 SO Journal of Physics and Chemistry of Solids (2000), 61(12), 1985-1988
 CODEN: JPCSAW; ISSN: 0022-3697
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 AB Vacuum UV excitation spectra of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln} = \text{Y}, \text{Gd}$; $\text{Re} = \text{Eu}, \text{Tb}$), along with x-ray photoelectron spectra, were measured. The spectra are tentatively interpreted in terms of the optical properties of the rare earth ions and the band structure. There is an energy transfer from the hosts to the rare earth ions. Also the top of the valence band in the Gd compd. is mainly formed by the 2p levels of O^{2-} and the 4f levels of Gd^{3+} , and in the Y compd. mainly by the 2p levels of O^{2-} .
 IT Luminescence
 (UV; vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT Energy transfer
 Valence band
 X-ray photoelectron spectra
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 7440-27-9, Terbium, properties 7440-53-1, Europium, properties 22541-18-0, Europium 3+, properties 22541-20-4, Terbium 3+, properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 13813-76-8, Aluminum yttrium borate ($\text{Al}_3\text{YB}_4\text{O}_{12}$) 13813-77-9, Aluminum gadolinium borate ($\text{Al}_3\text{GdB}_4\text{O}_{12}$) 260809-40-3, **Aluminum gadolinium terbium borate** ($\text{Al}_3\text{Gd}_{0.85}\text{Tb}_{0.15}(\text{BO}_3)_4$) 260809-41-4, Aluminum europium gadolinium borate ($\text{Al}_3\text{Eu}_{0.15}\text{Gd}_{0.85}(\text{BO}_3)_4$) 320608-54-6, Aluminum europium yttrium borate ($\text{Al}_3\text{Eu}_{0.15}\text{Y}_{0.85}(\text{BO}_3)_4$) 320608-87-5, **Aluminum terbium yttrium borate** ($\text{Al}_3\text{Tb}_{0.15}\text{Y}_{0.85}(\text{BO}_3)_4$)
 RL: PRP (Properties)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}$; $\text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
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L26 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:180771 HCAPLUS
 DN 132:214243
 TI Photoluminance properties of $\text{Al}_3\text{GdB}_4\text{O}_{12}$ phosphors activated by Tb^{3+} and Eu^{3+}
 AU Kim, Ki-Woon; Kang, Sei-Sun; Lee, Rhim-Youl
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 SO Han'guk Chaelyo Hakhoechi (2000), 10(1), 49-54
 CODEN: HCHAEU; ISSN: 1225-0562
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 LA Korean

- AB The new green $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Tb}^{3+}$ and red $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Eu}^{3+}$ phosphors were synthesized and then characterized their optical properties for PDP application. The luminescence properties of these phosphors were compared with the com. green $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$ and $(\text{Y},\text{Gd})\text{BO}_3:\text{Eu}^{3+}$ red PDP phosphors. The phosphors were synthesized by solid state reaction at 1150.degree. for 4 h. The emitting brightness of $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Tb}^{3+}$ (15 mol%) green phosphor under 147 nm excitation was higher than that of com. $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$ green PDP phosphor. The color coordinate of this new green phosphor was inferior to the com. one. The emitting intensity of $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Eu}^{3+}$ (15 mol%) red phosphor was smaller than the com. $(\text{Y},\text{Gd})\text{BO}_3:\text{Eu}^{3+}$ red phosphor, but the CIE coordinate was slightly improved. The excitation spectrum showed that $\text{Al}_3\text{GdB}_4\text{O}_{12}$ phosphors had a strong excitation band at $\lambda = 160$ nm assocd. with the host absorption. The luminance excitation intensity in VUV range for $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Tb}^{3+}$ green phosphor was higher than that of $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$, but the intensity of $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Eu}^{3+}$ red phosphor was smaller than $(\text{Y},\text{Gd})\text{BO}_3:\text{Eu}^{3+}$.
- IT Luminescence
Phosphors
X-ray diffraction
(luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)
- IT 13597-65-4, Zinc silicate (Zn_2SiO_4) 13813-76-8, Aluminum yttrium borate ($\text{Al}_3\text{YB}_4\text{O}_{12}$) 124676-67-1, Gadolinium yttrium borate ($\text{GdO}-1\text{YO}-1\text{BO}_3$)
RL: PRP (Properties)
(luminescence of)
- IT 260809-40-3P, **Aluminum gadolinium terbium borate** ($\text{Al}_3\text{GdO}.85\text{TbO}.15(\text{BO}_3)_4$) 260809-41-4P, Aluminum europium gadolinium borate ($\text{Al}_3\text{EuO}.15\text{GdO}.85(\text{BO}_3)_4$) 260809-42-5P, **Aluminum gadolinium terbium borate** ($\text{Al}_3\text{GdO}.99\text{TbO}.01(\text{BO}_3)_4$) 260809-43-6P, **Aluminum gadolinium terbium borate** ($\text{Al}_3\text{GdO}.95\text{TbO}.05(\text{BO}_3)_4$) 260809-44-7P, **Aluminum gadolinium terbium borate** ($\text{Al}_3\text{GdO}.9\text{TbO}.1(\text{BO}_3)_4$) 260809-45-8P, **Aluminum gadolinium terbium borate** ($\text{Al}_3\text{GdO}.82\text{TbO}.18(\text{BO}_3)_4$)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)
- IT 7440-27-9, Terbium, properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of aluminum yttrium borate phosphors activated by)
- IT 7440-53-1, Europium, properties 22541-18-0, Europium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of gadolinium yttrium borate contg.)
- IT 7439-96-5, Manganese, properties 16397-91-4, Manganese(2+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of zinc silicate contg.)

- AB The new green $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Tb}^{3+}$ and red $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Eu}^{3+}$ phosphors were synthesized and then characterized their optical properties for PDP application. The luminescence properties of these phosphors were compared with the com. green $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$ and $(\text{Y},\text{Gd})\text{BO}_3:\text{Eu}^{3+}$ red PDP phosphors. The phosphors were synthesized by solid state reaction at 1150.degree. for 4 h. The emitting brightness of $\text{AlGdB}_4\text{O}_{12}:\text{Tb}^{3+}$ (15 mol%) green phosphor under 147 nm excitation was higher than that of com. $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$ green PDP phosphor. The color coordinate of this new green phosphor was inferior to the com. one. The emitting intensity of $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Eu}^{3+}$ (15 mol%) red phosphor was smaller than the com. $(\text{Y},\text{Gd})\text{BO}_3:\text{Eu}^{3+}$ red phosphor, but the CIE coordinate was slightly improved. The excitation spectrum showed that $\text{AlGdB}_4\text{O}_{12}$ phosphors had a strong excitation band at $\lambda = 160$ nm assocd. with the host absorption. The luminance excitation intensity in VUV range for $\text{AlGdB}_4\text{O}_{12}:\text{Tb}^{3+}$ green phosphor was higher than that of $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$, but the intensity of $\text{Al}_3\text{GdB}_4\text{O}_{12}:\text{Eu}^{3+}$ red phosphor was smaller than $(\text{Y},\text{Gd})\text{BO}_3:\text{Eu}^{3+}$.
- IT Luminescence
Phosphors
X-ray diffraction
(luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)
- IT 13597-65-4, Zinc silicate (Zn_2SiO_4) 13813-76-8, Aluminum yttrium borate ($\text{Al}_3\text{YB}_4\text{O}_{12}$) 124676-67-1, Gadolinium yttrium borate ($\text{GdO}-1\text{YO}-1\text{BO}_3$)
RL: PRP (Properties)
(luminescence of)
- IT 260809-40-3P, Aluminum gadolinium terbium borate ($\text{Al}_3\text{GdO}.85\text{TbO}.15(\text{BO}_3)_4$) 260809-41-4P, Aluminum europium gadolinium borate ($\text{Al}_3\text{EuO}.15\text{GdO}.85(\text{BO}_3)_4$) 260809-42-5P, Aluminum gadolinium terbium borate ($\text{Al}_3\text{GdO}.99\text{TbO}.01(\text{BO}_3)_4$) 260809-43-6P, Aluminum gadolinium terbium borate ($\text{Al}_3\text{GdO}.95\text{TbO}.05(\text{BO}_3)_4$) 260809-44-7P, Aluminum gadolinium terbium borate ($\text{Al}_3\text{GdO}.9\text{TbO}.1(\text{BO}_3)_4$) 260809-45-8P, Aluminum gadolinium terbium borate ($\text{Al}_3\text{GdO}.82\text{TbO}.18(\text{BO}_3)_4$)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(luminescence of aluminum gadolinium borate phosphors activated by terbium and europium)
- IT 7440-27-9, Terbium, properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of aluminum yttrium borate phosphors activated by)
- IT 7440-53-1, Europium, properties 22541-18-0, Europium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of gadolinium yttrium borate contg.)
- IT 7439-96-5, Manganese, properties 16397-91-4, Manganese(2+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(luminescence of zinc silicate contg.)

L26 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:704768 HCAPLUS
 DN 134:122946
 TI VUV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$)
 AU Hongpeng, Y.; Hong, G.; Zeng, X.; Kim, C.-H.; Pyun, C.-H.; Yu, B.-Y.; Bae, H.-S.
 CS Changchun Institute of Applied Chemistry, Key Laboratory of Rare Earth Chemistry and Physics, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
 SO Journal of Physics and Chemistry of Solids (2000), 61(12), 1985-1988
 CODEN: JPCSAW; ISSN: 0022-3697
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 AB Vacuum UV excitation spectra of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln} = \text{Y}, \text{Gd}; \text{Re} = \text{Eu}, \text{Tb}$), along with x-ray photoelectron spectra, were measured. The spectra are tentatively interpreted in terms of the optical properties of the rare earth ions and the band structure. There is an energy transfer from the hosts to the rare earth ions. Also the top of the valence band in the Gd compd. is mainly formed by the 2p levels of O^{2-} and the 4f levels of Gd^{3+} , and in the Y compd. mainly by the 2p levels of O^{2-} .
 IT Luminescence
 (UV; vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT Energy transfer
 Valence band
 X-ray photoelectron spectra
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 7440-27-9, Terbium, properties 7440-53-1, Europium, properties 22541-18-0, Europium 3+, properties 22541-20-4, Terbium 3+, properties
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 IT 13813-76-8, Aluminum yttrium borate ($\text{Al}_3\text{YB}_4\text{O}_{12}$) 13813-77-9, Aluminum gadolinium borate ($\text{Al}_3\text{GdB}_4\text{O}_{12}$) 260809-40-3, Aluminum gadolinium terbium borate
 ($\text{Al}_3\text{Gd}_0.85\text{Tb}_0.15(\text{BO}_3)_4$) 260809-41-4, Aluminum europium gadolinium borate
 ($\text{Al}_3\text{Eu}_0.15\text{Gd}_0.85(\text{BO}_3)_4$) 320608-54-6, Aluminum europium yttrium borate
 ($\text{Al}_3\text{Eu}_0.15\text{Y}_0.85(\text{BO}_3)_4$) 320608-87-5, Aluminum terbium yttrium borate ($\text{Al}_3\text{Tb}_0.15\text{Y}_0.85(\text{BO}_3)_4$)
 RL: PRP (Properties)
 (vacuum-UV excitation properties of $\text{LnAl}_3\text{B}_4\text{O}_{12}:\text{Re}$ ($\text{Ln}=\text{Y}, \text{Gd}; \text{Re}=\text{Eu}, \text{Tb}$) with XPS and valence band structure)
 RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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 AN 2000:180771 HCAPLUS
 DN 132:214243
 TI Photoluminance properties of $\text{Al}_3\text{GdB}_4\text{O}_{12}$ phosphors activated by Tb^{3+} and Eu^{3+}
 AU Kim, Ki-Woon; Kang, Sei-Sun; Lee, Rhim-Youl
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 SO Han'guk Chaelyo Hakhoechi (2000), 10(1), 49-54
 CODEN: HCHAEU; ISSN: 1225-0562
 PB Materials Research Society of Korea
 DT Journal
 LA Korean